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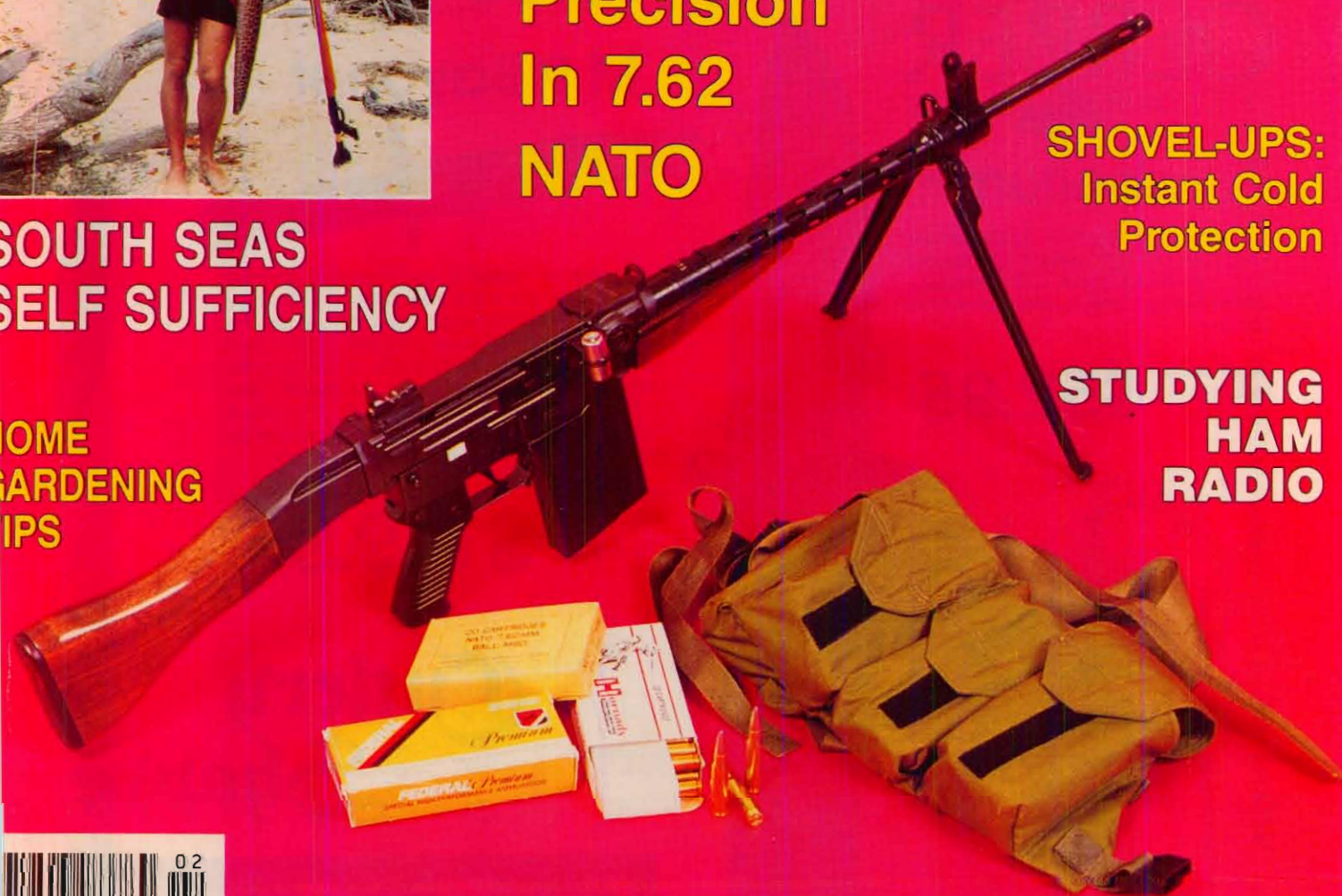
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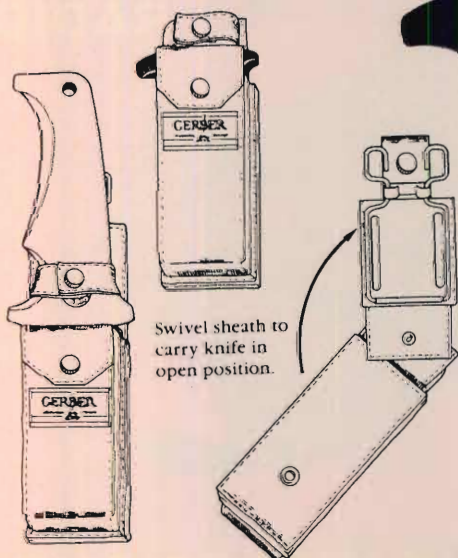
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THE MAGAZINE FOR SAFER LIVING

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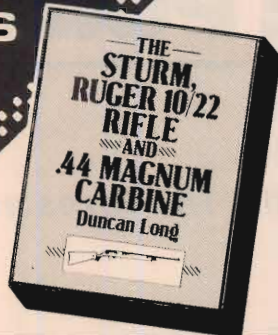
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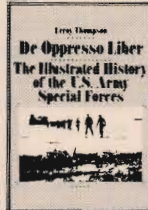
by Duncan Long

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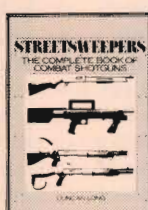
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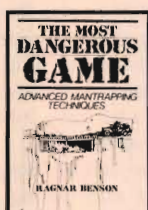
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TO THE POINT

Sexual survival in the '80s: The sexes at odds . . .

BROWSING in a book store the other day I came across the magazine rack and noticed that week's cover story in a national news magazine. "Women Are Fed Up And They Blame Men," was the title, or something like that. The artwork consisted of animated male and female symbols with the female symbol glowering at the male symbol.

This article had to do with feminist author Shere Hite's latest book, *Women and Love*, a more than 900-page collection of quotes from and analysis of a survey of 4,500 women, many of them selected from women's groups. This is the third book of a trilogy Hite has done on changing relationships between men and women.

I haven't read the book—or the other two of the trilogy—and probably won't any time soon. The more I read about the book, the more it turns me off. It comes down pretty hard on men: 84 percent of the women are unsatisfied emotionally in their relationships with men; 96 percent believe they give men more emotional support than men give them; 95 percent say men assume they should come first in relationships; 93 percent put more into relationships than men; men won't talk about their feelings, they nag, use violence against women, only want sex and not commitment, smother women and take away their identity, etc., etc.

My purpose here is not to review a book I haven't read, but to cite this work as being—from what I've seen of the excerpts and criticism—typical feminist writing with familiar themes. It's the same stuff I've been seeing, hearing and reading in the media since college; basically anti-male in tone and one sided.

Now, there's no denying that men—some men at least—do bad things to women. But really, we aren't *all* bad. And nobody, talks about the bad things women do to men. You never see much positive comment on men from the feminists.

As a man I'm obviously biased. So are women. We men have been getting dumped on for a long time and bearing it in silence. A lot of men don't agree with all of this feminist dogma. Sure, men have their faults, their weaknesses, who doesn't? What about women? Is men's behavior the only cause of failed relationships? It seems like any criticism of women these days is

largely ignored by the media. All you seem to hear is men are no good, men are weak, men destroy women, and so on and so forth, over and over and over again.

I'm going to violate a modern-day taboo and mention some male complaints about women, complaints of mine and other men I've talked with about women.

Women are self-righteous about being extremely fragile emotionally, easily hurt and angered by men. While women claim they want "sensitive" men, they appear to despise this same fragile emotional sensitivity in men. Men who hold back, have fear of commitment (rejection) or are vulnerable to women are branded as weaklings who want nurturing mother figures in relationships with women, yet women are allowed without question to behave exactly this way toward men (but of course they're not looking for nurturing father figures!).

Men are held primarily responsible for romance and sex. Women seem to have no sympathy for those men who have trouble performing for women romantically.

Women tend to be men junkies, desperately dependent on men and taking the first man that comes along for a relationship, then blaming men for not being adequate in relationships.

I can go on and on with these simplistic complaints about women, just as women can do complaining about men. There's truth in these complaints—male and female—but of course they don't apply to every man or woman, nor should they. And we're talking here about romantic/sexual relationships, not business or other types of relationships between the sexes.

Most men don't want to see women oppressed and repressed, we don't want to enslave women, discriminate against them or deny them basic rights.

On the other hand males and females are quite different in certain ways and each sex needs to recognize and be sensitive to those differences. This makes complete "equality" between the sexes impossible.

Each sex also needs to be able to look at itself critically and to recognize its own faults and weaknesses and deal with them. Recognizing and complaining about the faults and weaknesses of the opposite sex is not enough to correct the problems. We have to work together to do that—*Jim Benson*.

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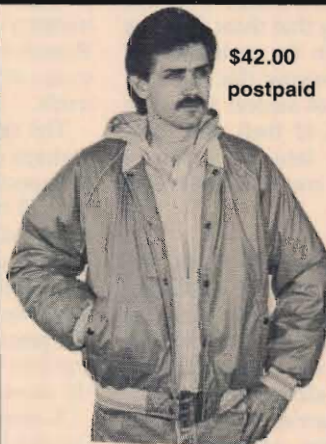
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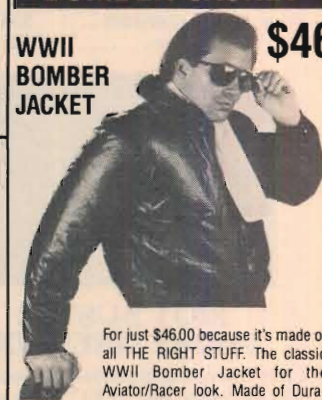
STUN GUN will instantly "scramble" attacker's nervous system causing immediate (temporary) paralysis! By simply touching your attacker anywhere, he will drop helpless even through many layers of clothing. STUN GUN is not lethal and is safe to use. Cannot transmit shock back to you. Requires a 9 volt nicad battery and charger \$16.00. The Nova is sold with a leather holster for \$63.00 postpaid. This is the authentic American made product. Put 50,000 volts in the palm of your hand, order today.



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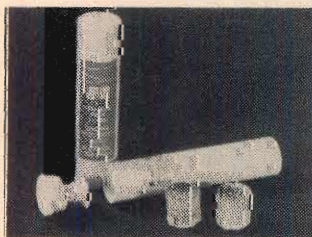
Price: 1 or 2 grenades \$34.95 ea.
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Light this unit and produce an incredible 100,000 cubic feet of HC white smoke. Can be used for emergency services, disaster and evacuation training exercises, war games, large smoke screens or riot control. Burn time: 2½-3 minutes; Fuse delay 5-10 seconds. Cannister is 4" tall and 2" in diameter.

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When lit with a match or lighter, these smoke pellets generate a large amount of dense, white smoke. Each pellet contains an ignition surface, making it easy to light in wind. Burns without flame but is very hot. These smoke pellets have a multitude of uses. Packed 4 pellets to a tube. Price: tube of 4 \$3.25 tb

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SURVIVAL LINE

Increased fears of terrorists seizing plutonium shipments, near accidental missile launch, buying federal treasury securities, rising sea level dangers . . .

A NEW report issued by the Pentagon cites a growing concern about the possibility of terrorists seizing a civilian plutonium shipment and utilizing the stolen plutonium in a terrorist attack. The report notes that civilian shipments of plutonium are on the rise and that by 1990 as many as 300 shipments a year between European countries and Japan alone can be expected. According to the report, "opportunities for terrorist acts, including attempts to steal civil plutonium, will increase substantially as a result of the increased commercial use of plutonium." The Pentagon report concludes with the following ominous prediction: "If as anticipated, amounts of separated plutonium in transit and storage increase, there are grounds for concluding that there will be a concomitant increase in the probability of low-level incidents involving this material and an increased risk of nuclear terrorism involving its diversion of theft and, possibly, its fabrication into an explosive device or its use to create a radiologic hazard."

Accidental War—The Air Force announced recently that in 1984 a Minuteman III missile, located in a silo along the Nebraska-Wyoming border, sent indications to its crew that it was about to launch itself towards its pre-designated targets, (the Minuteman III carries multiple warheads). The silo crew was unable to "switch off" the missile or regain control of the launch sequence. The problem was eventually solved by placing an armored personnel carrier atop the missile silo, blocking the silo covers from opening. According to an Air Force public information officer, the armored personnel carrier "would have fallen on top of the missile and prevented it from going anyplace," should the silo cover somehow have opened. After an investigation the Air Force determined that a problem in the missile's navigation guidance unit caused the launch warning.

Safe Investments—If the recent roller coaster stock market has made you start thinking of safer investments such as U.S. Treasury securities or gold, here are two helpful sources of information. For those interested in U.S. Treasury notes and bonds, (which can be purchased with no commission charge, directly from the government), the following booklet is

available: *Buying Treasury Securities at Federal Reserve Banks*. Send \$2 for the booklet to, Federal Reserve Bank of Richmond, Public Services Department, P.O. Box 27622, Richmond, VA 23261 (allow 4-6 weeks for delivery).

For those interested in purchasing gold or who need up-to-the-minute price information, including the current market prices of the new American Eagle coins, Citibank Precious Metals Center has set up a toll-free 800 number which you can call for a taped update of gold prices. The tapes are updated every 1/2 hour. The number to call is 1-800-223-1080.

Water, Water, Everywhere—A committee of coastal engineers and geologists working under the auspices of the National Research Council has issued a report that warns of the dangers posed by rising sea levels.

The report notes that a continued, and perhaps accelerated, rise in sea levels can be expected in the foreseeable future. In the next 30 or 40 years experts predict seas to rise by at least one foot, while over the next century a sea level rise of between two to eight feet is expected. The rate of the sea level rise is also increasing. Over the last 100 years scientists have measured about a one-foot rise in sea level, about one half the current rate.

A number of factors are contributing to the rise in the sea level. Among them the so-called greenhouse effect, the sinking and settling of land masses as ground water and hydrocarbons are extracted, and a phenomena known as compaction in which large land masses simply pack down on top of themselves lowering their average height above sea level. These "natural" forces have contributed to an overall rise in sea level of some 450 feet since the end of the last ice age 12,000 years ago.

The dangers posed by the rise in sea level are most acute along the highly developed Atlantic and Gulf coasts. According to the chairman of the NRC committee, Dr. Robert Dean of the University of Florida, the continuing rise in sea level poses a threat to the infrastructure of coastal cities. He cites specifically, sewer systems, power plants, tunnels, landfills, wharves, and bridges as being particularly vulnerable to a sea level change. The committee has urged an intensified effort in seeking ways to minimize the effects of the rising seas. ●

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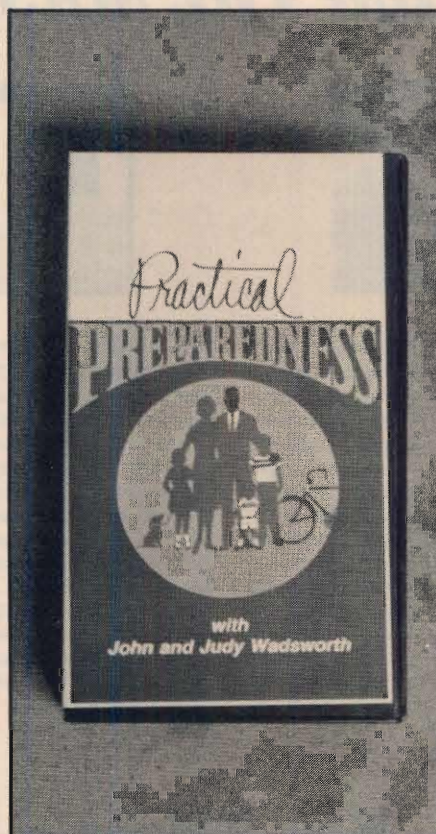
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BOOKS/VIDEOS



Practical Preparedness, or How to Survive Your Disaster Solutions, with John and Judy Wadsworth; one-hour video tape available in VHS only from Nitro-Pak Storage Foods & Supplies, Dept. ASG, 11018 E. Rosecrans Ave., #300, Norwalk, CA 90650; (213) 929-4705; \$34.95.

"You really can't run away from disasters because they're everywhere," states John Wadsworth at the beginning of this video. He is explaining how he and his wife moved to different parts of the country trying to avoid natural disasters but finding them—different ones—in each place they moved: earthquakes in California, tornados in Illinois, high winds in Utah. They decided to plan and prepare for whatever problems might befall them, he states, but when they tested themselves they found they were still ill prepared. The family, John, Judy and their children, were too dependent on government, churches, etc. for disaster relief, they found. In doing research they also discovered that households headed by single women, the elderly and the poor constitute a large part of our population and that women will more often be home alone with children when disasters strike. Any practical preparedness must include provisions and plans feasible for these individuals. "Nobody knows our needs or can take care of us

better than we can," says John. "Your commitment to family preparedness will largely determine the outcome" of a disaster situation. Learn how to make tortillas in two minutes instead of baking bread, conserving energy and time; increase food storage by 300 percent for \$30; store a year's supply of fuel safely and affordably; tips on surviving nuclear war; and many other valuable procedures and ideas on staying safe and alive in various disasters. "I have learned more in one hour from these people than I have in six months from the 'experts' in Washington," says General Julius Becton, director of the Federal Emergency Management Agency.



Knife and Pistol Fighting, by Dr. Hatsumi (translated into english by Steven K. Hayes); CEP Inc., Dept. ASG, P.O. Box 865-MPR, Boulder, CO 80306; (303) 443-2294; 200 pages, softcover; \$19.95 plus \$3 for postage and handling.

"Unlike most martial arts, ninjutsu schools incorporate training with a number of weapons in their basic philosophy. Pistols and knives are two disciplines within the Tokagure ninja style . . ." begins the note to Grand Master Hatsumi's enlightening book. Although it's common knowledge that hand and foot

(Continued on page 73)

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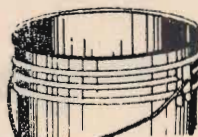
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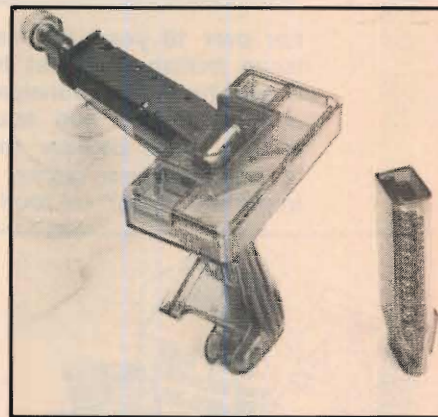
Mini-14 Air Rifle



Knowing they had quite an act to follow after the recent introduction of the Daisy Power Line 44 pellet revolver, Daisy designers have produced a new air rifle that is almost as appealing to look at as it is fun to shoot. The Power Line 814 is a faithful

replica of the famous American sporter rifle, the Mini-14, shooting either BBs or pellets at up to 480 feet per second. In 350-shot BB repeater mode, the 814 automatically feeds a BB into the chamber each time the bolt is worked, while .177-

9mm/.45 Mag Loader



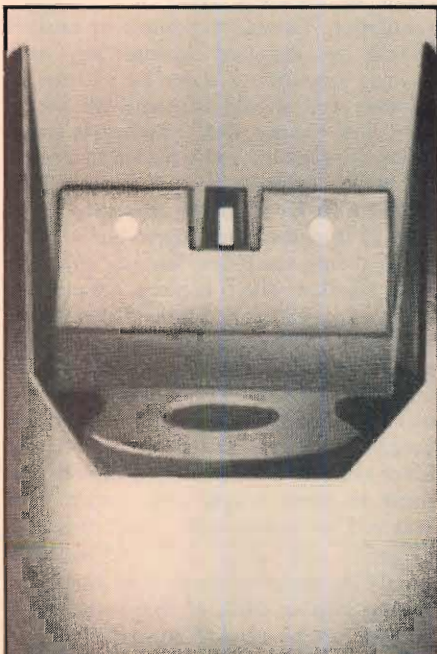
RAM-LINE has designed a new unique device that provides effortless loading of those pesky 9mm and .45 ACP magazines. It eliminates the pain of loading while increasing the speed so you can load your 9mm mag to capacity in seconds—without "thumbusting." Simply attach the mag, drop cartridges into the 'X'-PRESS LOADER and squeeze the trigger. You'll even experience fun in loading! For even faster loading, use RAM-LINE's exclusive ammo "pick-up" tubes (\$8.95 each). Each tube holds 20 rounds of ammo and is used like a conventional primer pick-up stick. Once loaded, they can be stored until needed or just snapped onto the 'X'-Press Loader for "hopper-like" feeding. The 'X'-Press Loader (\$29.95) is available for most side by side 9mm mags, the Glock 17 and the .45 ACP. It's ready to load one model. Caliber conversion kits (\$12.95 each) allow you to easily change from one caliber to another without repurchase of the entire 'X'-Press Loader model. To change, simply swing the mag holder bar and remove the bullet entrance assembly and slide the new one in. A caliber "nose" piece for change-out is also included. For more information write to: RAM-LINE, Inc., Dept. ASG, 15611 West 6th Avenue, Golden, CO 80401.

caliber pellets are loaded individually. The authentic styling of the 814 is true to its model right down to the removable wire stock and checkered pistol grip. The Power Line 814 has a blade front sight and a rear peep sight fully adjustable for windage and elevation. Stock and forearm are molded with woodgrain from high-impact ABS, and the gun has a crossbolt trigger block safety. The Daisy 814, as are all Daisy Power Line guns, is recommended for shooters age 16 and older. The gun is packaged with a booklet offering shooting tips, as well as instructions for building BB and pellet backstops for shooting in the backyard or even indoors.

Exploding Arrow Tips



Breckenridge Advanced Drive (B.A.D.) is offering screw-on exploding tips for arrows. Sold in kit form, these cartridges use pistol primers (not included) and black powder (not included) and are designed to explode on contact. These are dangerous devices and the buyer must be 21 or more years of age. It is the responsibility of the buyer to comply with all federal, state and local laws concerning possession, sale and use of this product. The power tip kits are \$18.95 each. Besides the exploding archery power tip kits, B.A.D. carries a large line of hard to find survival products, including archery, hunting, fishing, fire-arm modification kits, rockets, clothing and camouflage items. For more information or ordering contact B.A.D., Dept. ASG, 825 South Highway 89, Sevier, UT 84760; (801) 527-4351.



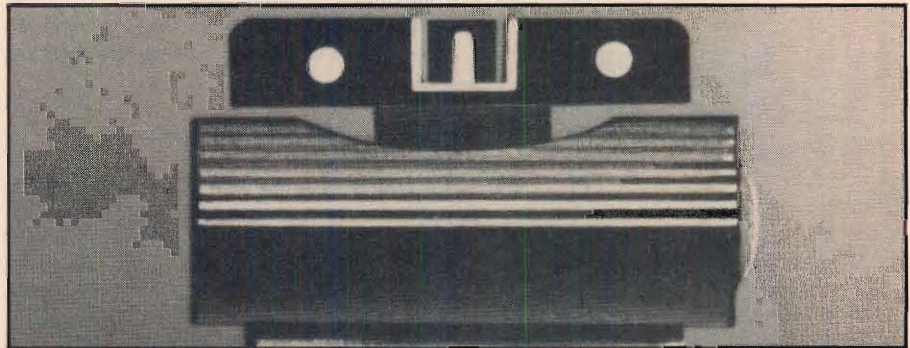
S&W Scope Mount



Computer designed and engineered to stay on .44 Magnums and also to fit .22s, B-Square's new mount fits all Smith & Wesson K, L, and N frame guns with adjustable sights. B-Square's technically superior mount does not require drilling, tapping, clamps, or straps. It is guaranteed to stay on round after round of your heaviest loads. Try one—you can't lose. B-Square's mount has a standard mount-

ing dovetail so any Weaver-type ring or Aimpoint, Tascorama, etc., can be attached. It lists for only \$49.95 in blue finish and \$59.95 in stainless finish. One mount fits *all* S&W guns. Available at dealers and distributors everywhere, or contact B-Square for more information. Dept. ASG, P.O. Box 11281, Ft. Worth, TX; (817) 923-0964.

Night Sights



The FBI states that most shootouts occur in complete or partial darkness. People rarely practice shooting at night; aiming in the dark requires sufficient light to focus on your sight. A revolutionary new night sight system has been developed in Israel to solve this problem, and is now being distributed throughout the United States and Canada by Hester Bros. Wholesale Co. of La Grange, Georgia. These tritium (a low-level radioactive substance) illuminated sights help you to hit any **visible target** under poor light conditions with deadly accuracy. The sights are identical to standard sights. They can be used during the day and in low light conditions, and require no external power source or

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HK 91/93/94



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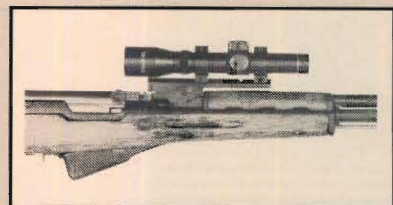


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Snake Bite Article

Regarding your article "Snake Bite" (October 1987), most medical textbooks recommending the "slash and suck" first aid treatment for snake bite base this on 1930s-vintage studies. The use of antivenin has made cutting and sucking obsolete. The author failed to note that cuts should be parallel to the long axis of the limb to avoid severing nerves, tendons and blood vessels. There should be two parallel cuts rather than an "X" if done at all.

Thomas Hickey, M.D.
Worcester, Massachusetts

The author of the article stated, "Although incision and suction is still generally endorsed as an effective procedure, it must be done properly and promptly to be of value. Suction performed after 20 to 30 minutes have elapsed is pointless, and small rubber cups can be only marginally efficacious at providing enough suction." In the field, far from professional medical help, suction may still be of value if done properly and promptly, according to the author, and we agree. He also notes that "severe systemic reactions" to antivenin, "often more life threatening than the bite itself" are possible. Something to consider when seeking help for a snake bite victim. Your comments on making the suction procedure more effective are appreciated.

Shelter Ventilation Blowers

Please put a note in *ASG* that surplus (brand new) civil defense shelter ventilation blowers are available from Master Mechanic Mfg. Co., P.O. Box A., Burlington, WI 53105; (800) 558-9444 (catalog on request). Cost is \$19.95 plus UPS. These are 300 cfm at 60 rpm handcranked blowers. I purchased one and am very pleased with the quality for the price.

Ken Scharabok
Dayton, Ohio

Thanks for the information.

Acid And Base Burns

In response to your September 1987 article by Todd M. Stanford on "Acid and Base Burns," there are some misconceptions to be corrected. The article presents most non-toddler caustic ingestions as "attempted suicides" and inhalation exposures to be "infrequent." This

couldn't be more false! Approximately 98 percent of these caustic ingestions are accidental. Most people with a caustic ingestion either didn't pay attention and mistook a caustic product for a medication or food product with similar packaging, or drank from an unlabeled container, often a glass or Coke can, that someone had earlier transferred a caustic into. It is true that with dermal exposures the alkali will usually cause a deeper, though not as immediate, burn than the acid. However, when ingested, acids have a greater potential to cause gastric burns through a process called "coagulation necrosis." The alkali is more likely to cause a burn in the esophagus, with deep tissue penetration caused by the process of "liquefaction necrosis." When dealing with an ingestion of a caustic 'cleaning' compound, especially the alkalis, it is important to remember that they are often combined with nonionic, anionic or cationic detergents which may act as an emetic. Diluting all ingestions with milk or water is the immediate treatment of choice, however that dilution should be limited to one tablespoon per kilogram of body weight and no more than eight ounces total. More fluids than that may stimulate vomiting. Home inhalation exposures to caustics are common and mostly are the result of breathing the fumes from caustics that were improperly mixed together (such as ammonia and sodium hypochlorite) or from using highly alkaline products (oven cleaners, mold and mildew removers) in small or enclosed areas without good ventilation. Dermal exposures to caustics should be irrigated immediately with copious amounts of water for at least 15 minutes and should continue for alkalis until the "soapy slick" feeling is gone. Then, the patient can be moved to a medical facility for evaluation if needed. Eyes should also be irrigated copiously for at least 15 minutes. First degree burns of the cheek should result only from an *improper* eye irrigation where copious amounts of water were not used. Lastly, Hydrofluoric Acid is one of the strongest inorganic acids known and has numerous industrial uses including several listed in the article. It was not mentioned. Hydrofluoric Acid will cause a very painful (often delayed with lower concentrations) burn and will continue to burn deeper and deeper until removed or neutralized. After thorough irrigation with water, a dermal exposure should be immersed in an iced solution of Epsom Salts or Milk of Magnesia. Compresses can be used if the effected part

cannot be immersed. The magnesium will bind with and inactivate the free-floating fluoride ion. Since symptoms can be delayed, particularly with inhalation exposures, all but the most momentary exposures to low concentrations of hydrofluoric acid should be evaluated by a physician.

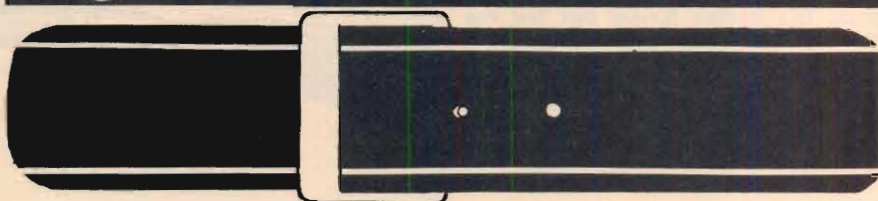
James R. Keyes, Paramedic
Poison Information Specialist
Seattle, Washington

Todd Stanford responds: To begin with, the statement concerning most non-toddler ingestions and inhalation injuries from these agents is not based on statistics. It is based on the author's 4½ years experience as a military medic and the author's 5 years experience as a licensed paramedic. The implications were based on actual field experience of the author, in other words. It is senseless to argue about statistics, since if one knows where to look; one can find statistics to support virtually any argument. Obviously, you know where to look. As for dilution of ingested caustics, very few patients will tolerate administration of more than a glass of water. Again speaking from field experience, patients usually will not take anything by mouth if they can help it, and then only if it is demanded that they do so. The 15 minutes of irrigation includes transport time. One should never delay transport more than five minutes to lavage skin or eyes when that can be done en route to a definitive care facility where PHYSICIANS can take over. Question for you—who is going to feel for that "soapy slick feeling?" Also, for your information and based on experience, first degree burns of the cheeks can and do result from proper eye lavage. Not everyone has access to an eye wash station in their home. Only when the runoff containing the diluted agent does not contact the skin, as with an eye wash station, is all danger of burning the skin eliminated. I would hate for a reader to allow a caustic to remain in another person's eye, simply because he didn't want to burn the face. You may have noticed: NO acid or base was specifically mentioned in the article. HF, nasty as it is, requires the same IMMEDIATE, FIRST AID action as any other acid or base. The purpose of this article was to inform readers with little or no medical training how to properly provide first aid care for an acid/base injury until more qualified help arrives or can be reached. There was neither the space nor the need to impress the reader with the author's knowledge of chemistry or the more technical aspects of what occurs on the tissue level in such an injury. Again, the recommended treatment protocols are adequate, effective, and easy for the layperson to remember under stress. The observations made in the article were based on the author's near decade of experience in the field, not from statistical research. ●

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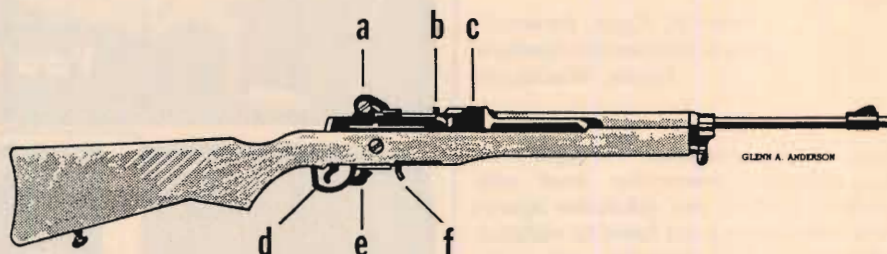
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SURVIVAL SELF TEST

By Glenn A. Anderson

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A hybrid between the M1 Garand, M14 Rifle, and M1 Carbine, the Ruger Mini-14 Rifle has become one of the most popular survival weapons in the United States. Ergo, while every survivalist may not personally own a Mini-14, it certainly is to one's benefit to know about the basics of this firearm. This month's Survival Self Test has been developed from a variety of resources, including the manufacturer's manual and past issues of *American Survival Guide Magazine*. Test yourself, then pour over these resources concerning the Mini-14, and study those areas where the Self Test has revealed your weaknesses.



1. There is a hole in the trigger guard at point d. What is it used for?
 - A. To unlatch the trigger guard.
 - B. To attach a drum magazine.
 - C. To connect a folding stock.
 - D. To hold a bipod attachment.
2. Pushing forward on the lever at point e.
 - A. Unlatches the magazine.
 - B. Deactivates the safety.
 - C. Holds the bolt back.
 - D. Opens the trigger guard.
3. To remove the magazine from the Mini-14.
 - A. Push forward on the lever at point e.
 - B. Push forward on the lever at point f.
 - C. Pull back on the lever at point e.
 - D. Pull back on the lever at point f.
4. After the trigger group has been removed, remove the barrel/receiver group from the stock by.
 - A. Pushing the pin at point b.
 - B. Pushing the handle at point c.
 - C. Pulling up at point a.
 - D. Pulling down at point d.
5. To hold the bolt open on the Mini-14
 - A. Pull back at point a.
 - B. Push down on pin b.
 - C. Lift at point c.
 - D. Press at point d.
6. Which of the following should not be used to unlatch the trigger group from the stock/receiver assembly?
 - A. A 1/4 inch diameter steel rod.
 - B. A punch.
 - C. A screwdriver shank.
 - D. A cartridge.
7. Generally, the Mini-14 is meant to be sighted in to hit the point of aim at.
 - A. 50 yards.
 - B. 100 yards.
 - C. 150 yards.
 - D. 200 yards.
8. When sighted in at the recommended distance, the Mini-14 should keep all of its shots in a nine-inch circle from.
 - A. 0-100 yards.
 - B. 0-200 yards.
 - C. 0-300 yards.
 - D. 0-400 yards.
9. One-quarter turn on the windage or elevation adjustments will move the point of impact how many inches at 100 yards with the Mini-14?
 - A. 1.5 inches.
 - B. 2.0 inches.
 - C. 2.5 inches.
 - D. 3.0 inches.
10. What keeps the rear sights on the Mini-14 from being accidentally disturbed?
 - A. A spring-loaded detent plunger.
 - B. A hooded ramp guard.
 - C. Dual windage sockets.
 - D. Counter-sunk ear flanges.
11. Straight from the factory, and loaded with a twenty round magazine, the Mini-14 weighs in at.
 - A. 6.02 lbs.
 - B. 6.58 lbs.
 - C. 7.08 lbs.
 - D. 7.96 lbs.
12. The .223 caliber ammunition used with the Mini-14 is interchangeable with standard U.S. military ball ammo in.
 - A. 9mm
 - B. 7.62mm
 - C. 6mm
 - D. 5.56mm
13. Provided a magazine is in the Mini-14 when the last shot is expended, the.
 - A. Magazine self-ejects.
 - B. Bolt remains open.
 - C. Safety latch engages.
 - D. Floorplate drops down.
14. Field stripping the Mini-14 involves removing the.
 - A. Trigger group.
 - B. Barrel/receiver group.
 - C. Bolt from the receiver.
 - D. All of the above.
15. Before reassembly, the hammer and safety on the Mini-14 must be.
 - A. Cocked and unlocked.
 - B. Uncocked and locked.
 - C. Cocked and locked.
 - D. Uncocked and unlocked.
16. Though no special tools are required to adjust or field strip the Mini-14, these tasks can be made easier by using a.
 - A. Small punch.
 - B. Pointed cartridge.
 - C. Combination tool.
 - D. Cleaning rod.
17. Because of its high velocity the Mini-14 is particularly susceptible to damage from.
 - A. Slight bore obstructions.
 - B. Clogged gas ports.
 - C. Loose recoil springs.
 - D. Stove-piped empties.
18. Reloaders should use only which of the following bullets in the Mini-14?
 - A. Boat-tailed.
 - B. Cannelured.
 - C. Hollow-pointed.
 - D. Solid-cored.
19. The Mini-14 can be reloaded without removing the magazine by using a top-loader and a.
 - A. Bolt lock.
 - B. Barrel check.
 - C. Stripper clip.
 - D. Floorplate.
20. Of the following, which should not be used to remove the fouling from the barrel of a Mini-14?
 - A. Brass/bronze brush.
 - B. Powder solvent.
 - C. Lubricating oil.
 - D. Mercury.

SCORING:

For each Survival Self Test Question answered correctly, score yourself 5 points. Add them up. If your total is:

Below 70 Tinkerer
 70-80 Collector
 80-90 Gunsmith
 90-100 Weapons Expert

ANSWERS:
 1-A 2-B 3-B 4-C 5-D
 6-D 7-D 8-C 9-A 10-B
 11-C 12-D 13-B 14-D 15-A
 16-C 17-B 18-C 19-A 20-D

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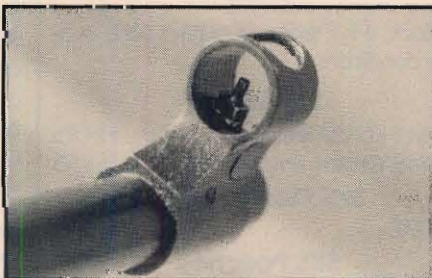
The rifled barrel is about 18 inches long and overall length is 42 inches. Weight is 6.8 pounds.

Using a rifle rest, we tried this weapon out shooting at a target about 20 yards away. It's an accurate air rifle and we had no trouble putting shots in the bulls-eye at that distance.

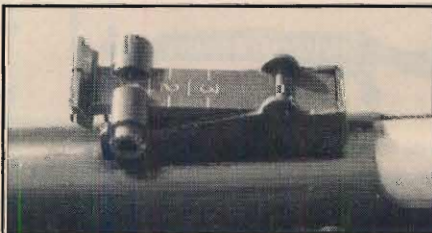
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Testers had no trouble putting shots in the bulls-eye at 20 yards.

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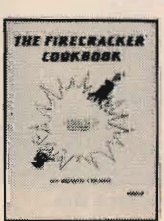
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Urban Foraging:

Survival In Our Own Backyard

Anyplace is a likely place to find food . . .

By Allen Deever



The fruit of the Washington fan palm. When ripe, the fruit turns black and tastes very much like a date.



Tall stands of Washington fan palms are popular ornamentals along streets and in parks. California Indians once ate the fruit, the seeds and the palm heart, and wove baskets from the leaf fibers.



The chalky-blue berries of juniper have long been used to impart that special flavoring to gin, a popular "survival" drink in the pubs of England.

"SURVIVAL begins in your own backyard," the saying goes, so we here at *ASG* decided to put that wise old maxim to the test by seeing just how well we could fare in *our own backyard*. This was to be a test of our urban foraging skills, a chance to practice what we preach, and an opportunity to flex some survival muscles, so to speak, (besides the possibility of a free lunch).

What we discovered, as expected, was such an incredibly abundant natural and

man-made harvest of wild and ornamental fruits and vegetables, they virtually bent the limbs that bore them!

The following, then, is the result of a 10-minute survey around our urban office, in the "wilds" of the Orange County metropolis:

One of the first wild foods that I encounter is my old friend lambsquarter (*Chenopodium album*). Lambsquarter holds a special place in my heart for being the first wild potherb I ever gathered and

ate. The fresh, young leaves and tops, when cooked a full 30 minutes in unsalted boiling water, far surpasses the best hybrids of spinach in both texture and taste; a crop to which it is closely related.

Growing spottily around the lambsquarter is common sow thistle (*Sonchus oleraceus*), another old friend and a traveling companion which has furnished me with delicious greens from California to New Zealand. Downunder the common

(Continued on page 60)

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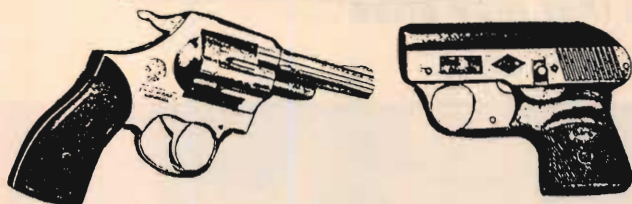
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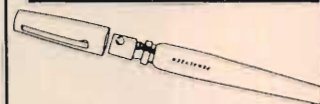
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Checking, Re-checking:

Curing Forgotitis

Being sure to prepare for any problems that may arise . . .



Forgetting any of these items could cause problems for you in the wilds.

By W. Ed Poe

WHEN working or just relaxing in the wilderness, there are only a few exclamations from my fellow travelers which tend to raise the hair on the back of my neck: "Gs on the trail!", "Snake!", "Leeches!" and the very worst of all, "*I Forgot!*".

Some problems can not be controlled until such time as they occur; however, "forgotitis" can be controlled long before entering the wilderness. A simple written check sheet is the first step in the cure. The second step is simply checking to assure

that all items on your check sheet are packed. The final act is an inspection by a fellow camper or hiker. The whole cure process is inexpensive and simple. Curing yourself of the dreaded malady could easily save your life or the life of a friend. Depends on what you forgot.

Our little group of "Die-Hards" learned a long time ago to check, double-check and re-check every outdoors essential before hitting the trail. In fact, we have a mandatory system that has no exceptions on essentials that we know will be, or even *think* will be, necessary for the survival of all parties. This mandatory system has reduced our cases of forgotitis to zero, as it can do for you and your friends.

To get our program underway, the

group met and established the check list items. All members present had good input, and certainly reservations about some of the required items. Even with a few long-winded discussions, the basic list was finally developed. Our main problem was not specific items, *per se*, but the duplications of some items by all those going on a trip. This was solved by a majority vote as to whether or not each member of the party was to be self sufficient. When the group decided that each member must be able to make it on his own, they essentially voted for duplication of certain or all equipment.

The basic check sheets were later typed up, copied and sent to all members. As trips occurred, new items were added to

the list and some were dropped or alternatives were included.

While on a trip into the wilderness, it was decided that we should add a second and a third section to our list. Our decision to add the new sections were based on the fact that we had incurred some equipment failures and a couple of incidents where individuals failed to bring personal items that were not included on the essentials list. The two new sections still failed to fill up a full 8½ x 11 sheet of paper, when added to the first section.

Should you or your group decide to establish a check list system, be sure and use the KISS (Keep It Simple, Stupid) system. Incorporate sections for mission-essential items, personal items and equipment repairs, inspections, etc. A typed sheet is much better than a handwritten list. Any person going into the wilderness with you, should receive a copy, with the understanding that they will comply with all sections. Sounds like a lot of work, doesn't it? It is better to do this type of project in the comfort of your home or a base camp, than to *wish* you had later on in the boonies.

Most anyone with previous military, civilian or Scouting outdoors training knows what to take with them when they travel the back roads and trails of the wilderness. What is usually forgotten, thus our second and third sections, are the little personal items the individual may want or need, and the failure to inspect, correct or replace defective equipment. No one in their right mind would go into a combat situation without performing a thorough inspection and testing of their weapons. Why would you want to go into the wilderness without checking yours?

Personal items are not necessarily mission essentials, as I've said, unless however, they are items which are needed to maintain high efficiency of a particular individual, i.e., spare prescription glasses, glasses repair kits, special medications and extra shoe/boot strings. Once you start thinking about it, I am sure you could add a long list of personal items you might need in the wilderness.

As we all know, the new improved nylon packs, for example, are a great deal lighter and have many improvements in design over the older cotton canvas rucks used for many years. Many of the newer packs, especially the cheaper commercial models, have a very serious problem that can occur at any time. The stitching breaks at stress points, and the seams separate. If this does happen, the pack or duffle will eventually become unserviceable.

By adding a section to your check list concerning equipment inspection, failures such as I have mentioned may be avoided. If a particular item cannot be repaired; replace it now. I doubt that you will have access to a field re-supply system, for your broken or damaged equipment.

Ample Personal Gear—As the third and



Those who use glasses should maintain a mini-supply store for maintenance, protection and replacement while on wilderness outings. Having a camera in the field is optional. However, pins, scissors, paper clips and other useful items should be on your check list.

final check of equipment is made, the camping buddy will not only check the essentials, but try to determine if you have ample personal gear to keep you effective. He should inspect the equipment for problems and make suggestions for corrections prior to departure. He should also check to be sure you have a good supply of materials to make field repairs of any equipment that could be damaged or that just falls apart.

Each member of our group will carry thread, needles, glue (Super type), fabric tape and a small pair of scissors. Each person will also have a small supply of safety pins and paper clips. The paper clips provide small pieces of strong wire. The whole *shootin' match* takes up a very small space in your pack. You'll never know it's there, until you need it.

Need it, you will, especially if you use military surplus items. It seems the contractors which manufacture most of the military equipment, such as ALICE gear, think that everybody can just call for replacements when the gear self destructs. Wish I could.

To prevent a lot of possible problems, especially with the surplus gear, we try to reinforce all stress points and repair any damaged areas, before we leave home. Another important detail that is mandatory, is the ALICE pack frame. All unions are taped with strong fabric type tape such as the "90 MPH" tape which the military uses. This aids in the reduction of strain on the poorly designed frames. When possible, most of the group will replace the ALICE frame with their own version, that is normally stronger and more comfortable.

Before leaving home, try to think of what could happen to your equipment, and then be prepared for the worst. Being a "welfare" case in the wilderness will not keep you in good stead with your fellow campers. I know of one group that almost refuses to permit one of their best friends from going on a simple overnight canoe trip because of his "care less" attitude about his equipment, and expecting every-

one else to take care of his needs. Showing up for a trip with a brown paper bag, a blanket and two apples, just doesn't cut the mustard. If there were real outdoors commandments, one should read: *Get Thy Self Prepared*.

In most cases, the items which are left behind, are those we take for granted around the house or office. For some reason, we tend to expect these items to be just as available in the field. Believe me, in 99 percent of the cases, you won't find what you might need, unless you pack it yourself.

As a prescription glasses wearer, I tend to go overboard protecting them. When I canoe, rubber raft, climb or rappel, I wear a stretch type glasses holder. Plus, I wear a sturdy pair of goggles over all of that. If some of us lost or severely damaged our glasses, we would be lost. I also carry spare glasses and plenty of tools to repair the frames, if needed. Anyone needing glasses, and not preparing for the worst, is damned foolish, in my book.

There is no telling how many times I have heard a member of an outing party exclaim his feelings for failure to bring along a camera. The usual excuse is that the camera costs too much money to take a chance with it in the wilderness. I don't blame them for feeling that way, however, I do think they could purchase an inexpensive camera for such outings. Spare cameras to me are like spare socks: You gotta have 'em! For fun trips I usually take along a cheaper priced older model Kodak. For those trips into the wilderness that I might want full carno, I use the same type cheap camera, but with a personal touch of model paint that makes the camera blend into my gear. Cameras are on our personal check list. But, only as a reminder.

The main point is to be prepared for any and all types of problems that may arise. A good check list system can certainly be an aid to you. There is always a place in your pack for every need, if you will take time to find it. ●

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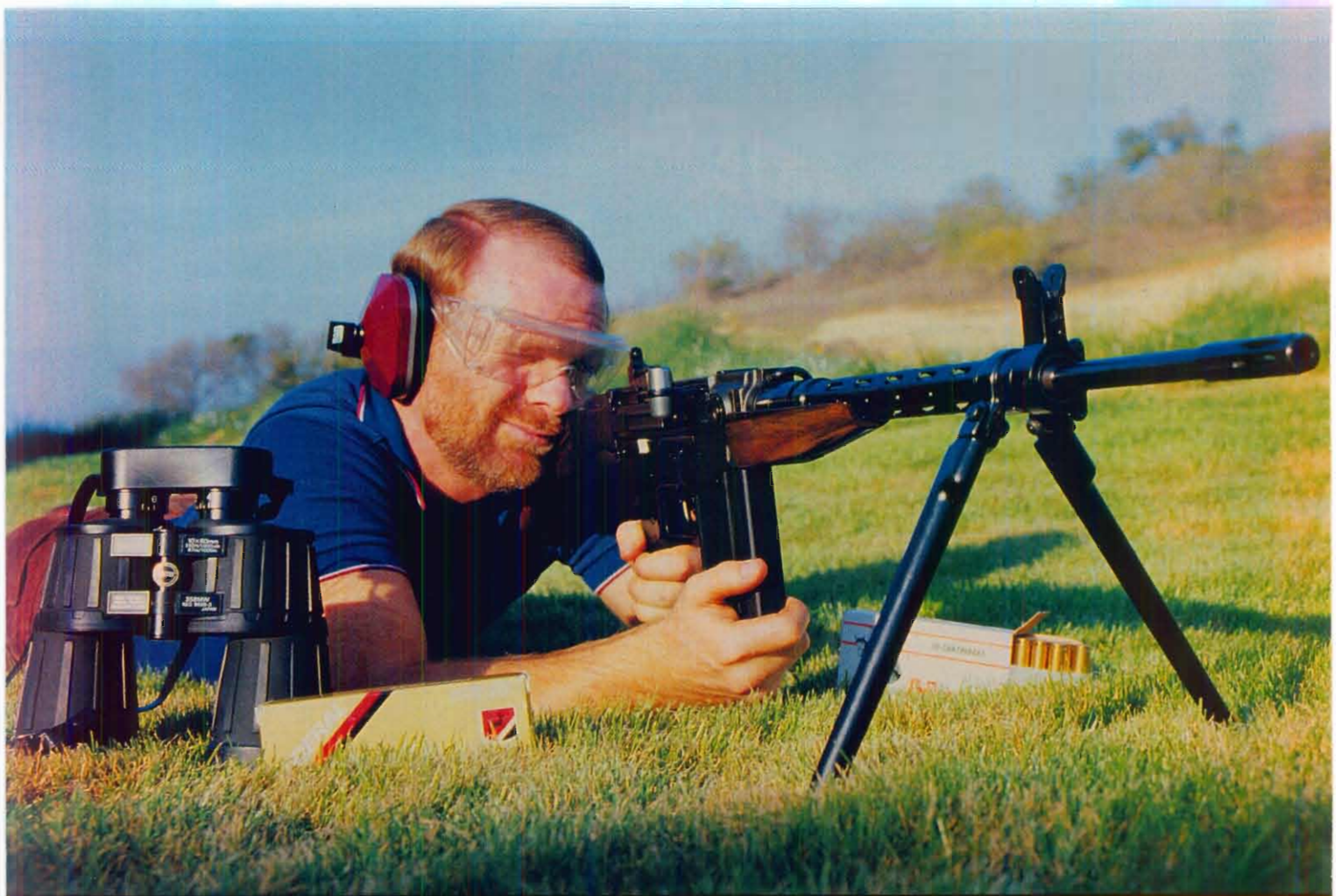


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Prize No. 3. Mini-AT semiautomatic .22LR pistol with accessories from Feather Industries, Dept. ASG, 2300 Central Ave., #K, Boulder, CO 80301; phone (303) 442-7021. This is the same pistol reviewed and tested in the December 1987 issue of ASG. The pistol version of the popular AT-22 Carbine, this gun is made of aircraft aluminum, steel and nylon parts with a total weight empty of only about 2 pounds. Included with the prize are four 20-shot magazines, a scope mount, owners' manual and padded black nylon carrying case. Total value of more than \$350.

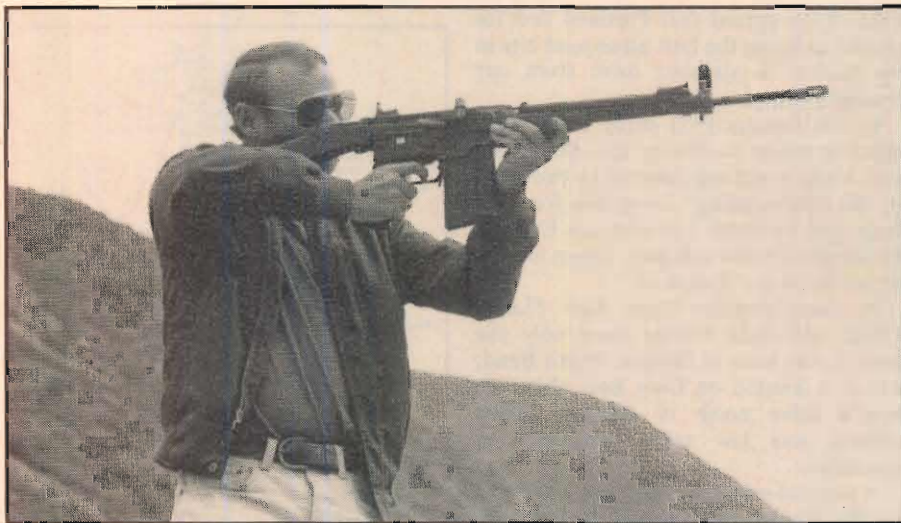




AMERICAN
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Swiss Made:

SIG-AMT Sporter Rifle



A 7.62 NATO caliber, semiauto version of the Swiss military rifle . . .

By Jim Benson

"LAST OF THE STURMGEWEHRS," read the headline of the full-page ad in *The Shotgun News*.

"Production of these famous and widely used SIG rifles has ceased and no more will be manufactured. We have a very limited supply of both the AMT and PE57 Sturmgewehr semiauto rifles. These accurate and tough Swiss guns are skillfully made in the SIG tradition. Currently in service with armed forces in many parts of the world, these Sturmgewehrs perform with excellence in tropical heat and alpine cold."

The ad for the SIG rifles was by Golden State Arms Distributors, Inc. (205 South Kuhn Drive, Manhattan Beach, CA 90266; (213) 374-4086). The SIG-AMT rifle chambered for 7.62 NATO (.308 Win.) was listed for \$1,399. The PE-57 in 7.5mm Swiss caliber was the same price. Introduced in 1984, the AMT has been advertised for as much as \$2,500 where available.

These guns are versions of the Swiss Army Sturmgewehr 57 assault rifle, all made by the Swiss arms firm SIG (Schweizerische Industrie-Gesellschaft) whose U.S. subsidiary is SIGARMS INC. of Tysons Corner, Virginia.

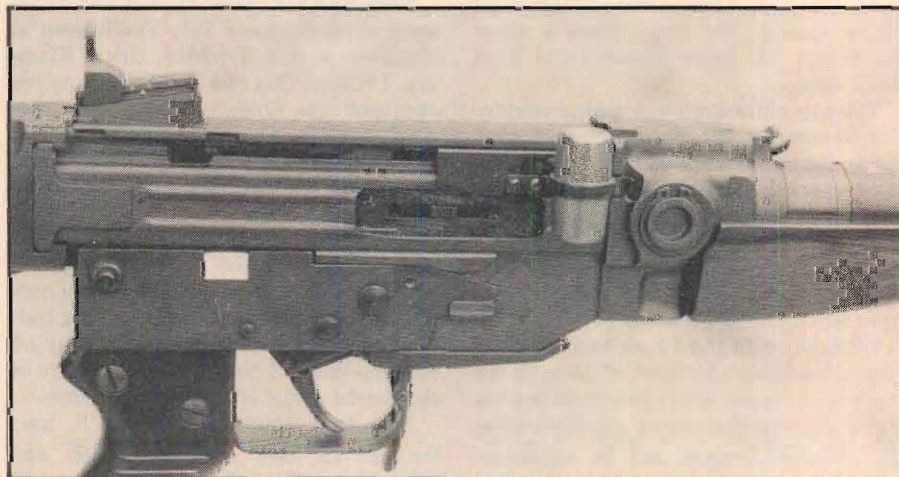
(Continued on page 43)



Rear sight is an aperture adjustable for ranges of 100 to 600 meters. Front post sight is adjustable for windage and elevation.



Carrying handle makes transporting the 10-pound AMT easier. When not in use the carry handle, like the bipod, folds flat against the rifle for compactness.



The breech head has a chamber loading indicator allowing the shooter to tell by sight or feel whether the weapon is loaded. Note the long winter trigger folded up against the lower receiver in front of standard trigger.

Survival Retreat Land:

Southwest Oregon

A vast, wild, rugged and heavily forested region . . .

By Hal Gordon

HAVE you decided which is the single best deer cartridge yet? Well, maybe you've settled on the single best survival firearm. You haven't? I'm sorry to do this to you, but here is still another brain teaser for you to play with. I may not come up with the final answer for you, but I'll leave you with a perplexing question: "Is this the ultimate survival retreat area for you?"

This question leads to one of the favorite topics of conversation among survivalists. So, if you'll prop your feet up on a chair, sit back and enjoy the warmth of the pot-belly stove, you can join me for a visit to one of my favorite retreat locations.

The southwest coast of Oregon is really just one part of a visit, wild, rugged and heavily forested coastal range of mountains extending from northern California to the Olympic Peninsula in Washington State.

There is just one highway which really becomes involved with this rugged country from one end to the other and that's the coastal highway, U.S. 101. Driving this route can be dangerous, partly because it is hard to tear your eyes off the breathtaking scenery and partly because the highway can become narrow and twisty.

Traveling north you will have the ocean on your left and fresh water, in the form of countless rivers, streams, lakes, estuaries and bays, on your right.

Most of the area is covered by truly majestic forests—some dark, others more open. The land is fertile and animals of all kinds abound. The temperature is never too hot or too cold—perfect for a hard day's work.

The particular stretch of coastal country I've chosen as my personal favorite—a tough decision considering the 1,000 miles of comparable coastline—is the 100 miles between Bandon and Brookings, Oregon.

This portion is one of the few areas that has no road connecting the coast with the more populous inland. It also benefits from having no large towns.

While my wife and I have been enjoying and researching this part of Oregon for many years, some recent published reports would indicate that others are discovering the state of Oregon and its southwest corner.

Next Magazine surveyed 47 of the nation's leading experts on big cities in

1981. They agreed that Portland tied for second as being the best all-around city in the nation, a six-hour drive from our coastal location.

In the famous 1973 study of the best cities in which to live by Dr. Ben-Chieh Liu, Oregon was represented by two cities in the "outstanding" categories for both large and medium: Portland and Eugene. In the small town category, Salem led the group listed as "Excellent."

In their popular book *Safe Places*, David and Holly Franke chose only one town in the state of Oregon, North Bend, which is located on Coos Bay, about an hour's drive north of Bandon. Their criteria was low crime tempered by amenities.

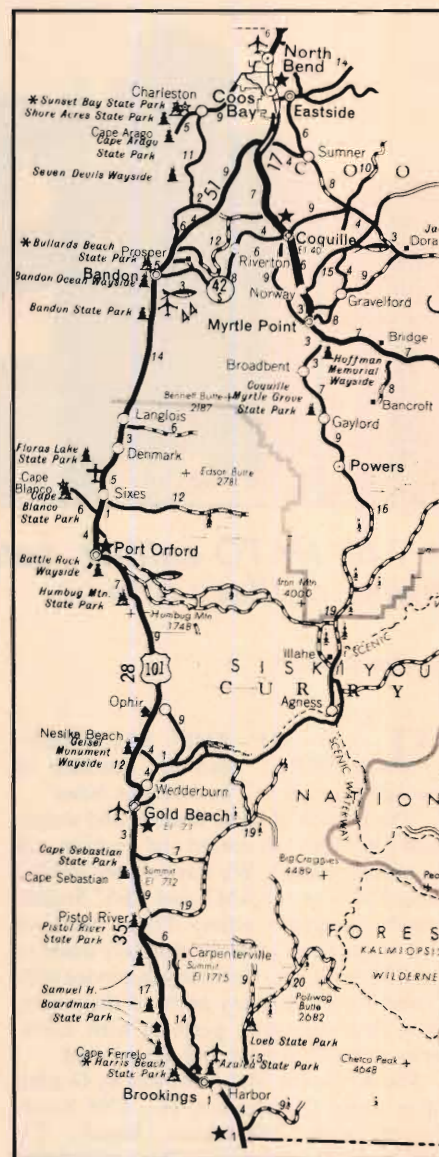
A survival-oriented report was published by the Center for Survival Research in 1981 in which they conclude that, with ultimate survival as the number one consideration, the southwest corner of Oregon (and into California) was their first choice for a survival haven.

If you want to make plans to visit this area, you will have to travel by car or Greyhound bus. You can fly directly to Portland or San Francisco and change planes to Eureka, California, for a point of departure. If you arrive by car from any points other than Washington or Oregon, I would start from Eureka, a sprawling college and lumbering city of 24,000. It wraps around a large bay and estuary and is situated below the fantastic redwood forests and Trinity Mountains.

From here you can work your way northward along Highway 101. You'll want to check out Arcata, Trinidad, Orick, Klamath, Crescent City and Smith River as you approach the Oregon border—all "survival" country. This California area is also Indian country and there is an occasional uprising in the form of a protest concerning "Indian affairs."

Considering California's 25+ million population compared to New York's 17 million, this coastal section is sparsely settled. Crossing into Oregon you are contending with a state population of only 2.6 million—most of that on the other side of the coastal range of rugged mountains.

The four towns which you'll pass through all have adequate motels and restaurants. The first one, about 10 minutes over the border, is Brookings at the mouth of the beautiful Chetco River.



A map of the southwest Oregon coast.

Brookings has doubled its population over the past 10 years to about 3,500. This has become a target town for many Californians as a sort of an "in" place to locate and for good reasons. Brookings has the river, the trees, the mountains, the ocean and a really good small boat harbor. As the "artsy-craftsy" people arrived, new amenities grew, such as the arts and culture, until today you will find this a well-

balanced little community.

Gold Beach would be your next stop at the mouth of the mighty Rogue River. This used to be the commercial center for the southern coast, but has been standing still for years with a current population of only 1,800. It has a tremendous small boat harbor which is also the gateway into the interior wilderness via the Rogue. I feel there is a lot of potential for investment here and it also makes a good headquarters for exploring the southern coastal region.

Next is Port Orford which has, somehow, managed to stay small. I imagine the reason for that is the small, unprotected harbor which holds a limited fishing fleet on the local wharf, placed there by a crane as security from southeasterly storms.

The last town, before reaching Coos Bay, is the sleepy and picturesque little fishing and lumber town of Bandon, our own favorite. With a population of around 2,200 it is growing slowly, but steadily. This was a major lumber shipping port, at the turn of the century, for the coastal schooners trading mostly with San Francisco.

Logs were floated down the Coquille River to the mill in Brandon and loaded within the protection of the river mouth waters. This was also called "shipwreck coast" because of the number of lost sailing ships which missed the harbor entrance into the river.

Coos Bay with North Bend form a population center of about 25,000. It lends jobs and hospital facilities to the southern coast and provides other services not available in the small towns. This is primarily a lumber shipping and lumber mill port. From Coos Bay, north into Washington, the population density increases—sometimes not too noticeably.

Safety, Self Sufficiency—So, with this brief introduction to one of my favorite bits of geography, let's get down to some of the details you would want to consider in locating your own survival haven.

Since nuclear war seems to be on everyone's mind these days, let's take that subject first. Considering four prime factors: potential targets, nuclear facilities, ICBM fields and climatic fallout patterns, you will discover that most of Oregon and northern California form one of the safest zones in the U.S. The Portland area might present the only potential target, but wind patterns indicate that the southern coast would probably not receive significant amounts of fallout, if any.

Along with wind patterns come allergy-causing pollens and other irritants—no small factor to the many who suffer from these enemies. Living right on the coast, you receive air being cleansed by 6,000 miles of clear ocean.

Self sufficiency from the land is usually the next order of interest to survivalists. In this area you have the considerable advantage of living off the water as well. Even if



A home carved out of a forest wilderness, using the materials at hand.



View of the mouth of the Rogue River and harbor entrance at Gold Beach.

you owned no land or didn't want to hike into the rugged wilderness, you could do well by plying the coast in a tiny boat or simply hiking along the coastal waters. I'll show you what I mean.

The ocean and the many rivers and streams feeding into it will provide you with as much edible fish as you will find anywhere in the world. It isn't famous for big game fish—just lots of food fish. Most fishermen go after such goodies as the king salmon (or chinook), the silver salmon (or coho), rainbow trout (or sea-running steelhead) and the cutthroat trout.

These fish can be caught either by land or by sea—very convenient—and they can be caught in huge numbers at certain times. Salmon dries and smokes well and can be stored if kept dry. Also, canning companies in the area will can your catch.

Here are some samples of what you would be able to bring up in large quantities: red snapper, ling cod (going over 20 pounds) flounder and halibut. The last two come into the bays in February and can reach several hundred pounds. Surf perch can be caught by casting from the beaches.

No fishing gear? Then use your hands. The long stretches of sandy beaches contain plenty of clams. Local residents can show you the best techniques for existing conditions and locations. Look for butter, littleneck, gaper and razor clams—all good eating.

If that isn't enough to keep you full, you can also trap the famed dungeness crab in bays and off jetties or rocks. For those with no sporting instinct, you can take a leisurely stroll along a rocky beach and simply pluck mussels off the rocks at low tide. They're as good as clams.

As you might have guessed, fishing is

the big sport along this coast. You'll find many guides and outfitters for this sport on the Rogue River at Gold Beach. But the locals will tell you, and the official statistics support them, that there are enough big and small game animals to satisfy even the most avid hunter.

To understand the potential for big game in this area, the shortest explanation I can give here would be to remind you that this is the country of the Yheti or Big Foot. In other words, this region of coastal mountains is probably the least explored wilderness in the lower 48 states.

While the last grizzly may have been shot back in 1908, there are plenty of black bear who find no reason to leave the area. The deer most often seen is the Columbian black-tail. Maybe "often seen" is a good way to describe them; as many as 100 per square mile have been counted by rangers.

All this live food may sound too good to be true, but there's even more good news. This region is also the habitat of the Roosevelt elk. These animals can weigh up to 900 pounds. If you want to get a sample view of one, you can usually spot not one, but a whole herd on your left as you travel north through Prairie Creek on Highway 101—just before entering Oregon.

For you small game enthusiasts here are some smaller creatures you'll find in this survival haven: the gray fox (seen in open areas), raccoons, mountain lion, bobcat, coyote and the ring-tailed cat.

The weasel family is well represented around all the rivers with marten, fisher mink and weasel. In the same areas are: river otters, badgers, beavers, mountain beavers and muskrats.

Of course you will also find the usual

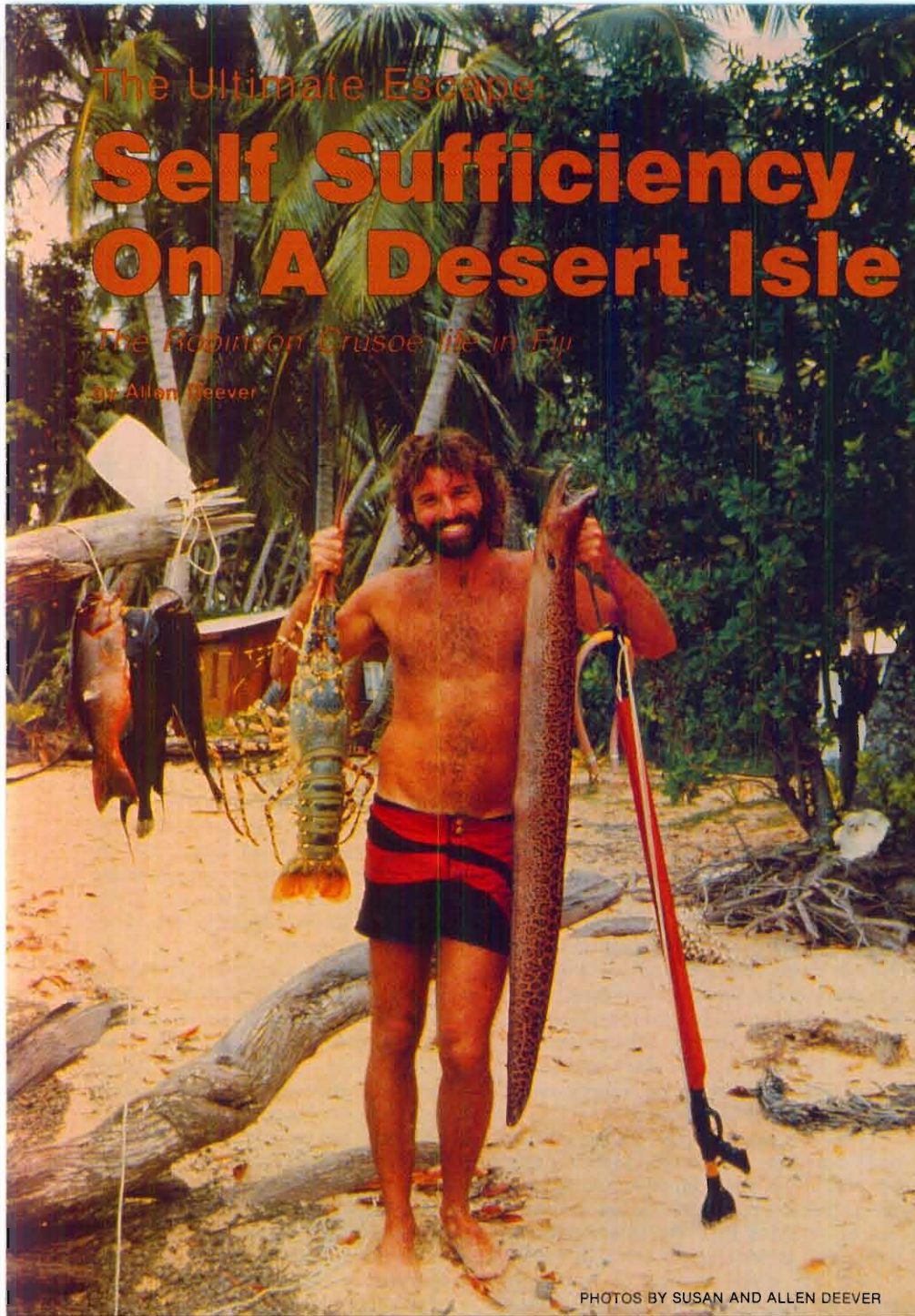
(Continued on page 74)

The Ultimate Escape:

Self Sufficiency On A Desert Isle

The Robinson Crusoe life in Fiji

by Allen Deever

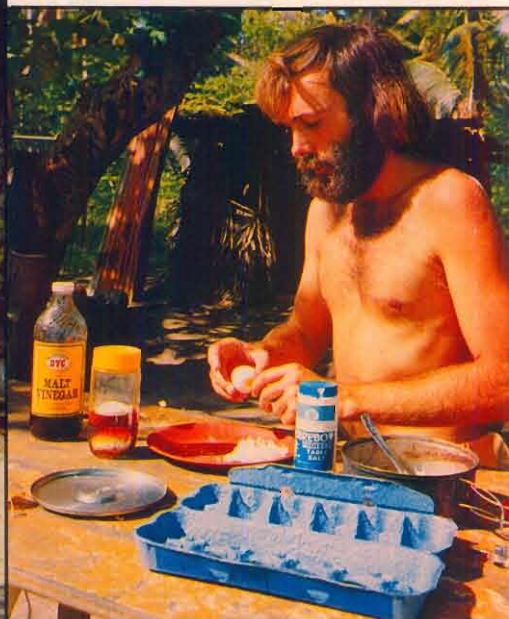


PHOTOS BY SUSAN AND ALLEN DEEVER

THE "Robinson Crusoe Dream" is a dream of self sufficiency, a longing to get back-to-basics. It's a dream that creeps up on us all, more so when life is hectic, the phone is ringing off the hook, and business deadlines hang like daggers overhead.

Deep down, it's a desire to chuck it all away; the bills, the fancy toys, the car, jacuzzi, house, the nine-to-five routine, the headaches (possibly even the wife and kids); the ultimate escapist's daydream. Ah, but there's something about the *South Seas* in that dream!

The full moon rising above a still lagoon, palm trees rustling in the balmy trades, a grass-thatched shack to call your home, a ton of dinner hanging from the breadfruit trees.

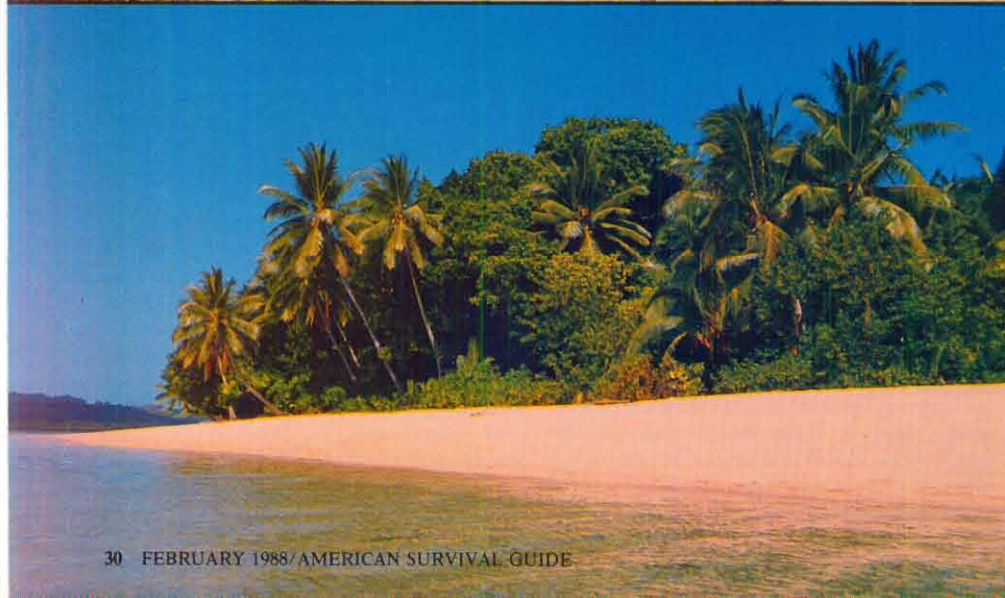


ABOVE — The author pickles eggs for future use. There's nothing like an island that teaches self-sufficiency.

ABOVE LEFT — Our friend John, a fellow beachcomber who resided in another bure on the island, displays a good day's catch.

BELOW LEFT — This island offered the South Seas prerequisite for paradise: a palm-lined sandy beach descending to a coral-filled lagoon.

BELOW — An inside view of our bure (island bungalow). All fresh foods had to be hung from the ceiling to protect them from ravenous insects. Some of these foods were purchased on one of our monthly excursions to the mainland.





"Paradise Found," how different it looked from all that we had read and dreamed!

My wife Susan and I, like so many others, imagined all these things, though we weren't content to just imagine. For four full months we played out that fantasy "to the max" on a tiny *motu* (coral cay) in the island group of Fiji.

The following, then, is more than just a boast or a pretty travel story. It's the account of how we managed to survive upon a desert isle . . . and survive it to the fullest. But first we had to find our "paradise."

Perfect islands don't just *happen* any more than perfect dreams. They must be prepared for properly, sought after, recognized when at last they're found, then grasped. You might say that I had spent a decade preparing to become a beachcomber. Since a child I'd always had a fascination with the wild things that flourished untended and unwanted in every yard. The collection and preparation of wild edible foods became my passion, and it was the skills gained in my own backyard—in the heart of suburbia—that qualified me for this undertaking.

The Ideal Island—For more than half a year we roamed the South Pacific searching for our perfect "paradise." From Tahiti to the Cooks, from Tonga to American and Western Samoa, to the far-flung atolls of Tokelau. Like the carrot on the stick it hung in sight but always out of reach . . . until we found what we were looking for in Fiji.

In our extensive travels it had quickly become apparent that in the South Seas almost every beautiful beach had a village on it, that every tree, like every island, had an owner, and that therefore the industrious beachcomber was not free to merely help himself.

On Fiji, however, 10 miles northeast of Viti Levu (the main island), we found a tiny desert isle where there was no permanent native population, and the five abandoned *bures* (native-style huts) were being offered for cheap rent. Besides these, it had a number of the other prime prerequisites: a fine white sandy beach that rimmed it, a warm lagoon that teemed with fish and coral, a degree of solitude, no roads, no airports, no yacht-choked harbors, no stores, no hospitals, no electricity

or bothersome modern conveniences of any kind. But oh, how different was our "Paradise Found" from all that we had read and dreamed!

The island of our choice rose not more than five feet at its highest point. Its gravelly coral shores supported only coconut, papaya and breadfruit for fruit, and even of these few only coconut and papaya were produced year round. Hardly the popular conception of a "perfect paradise," yet even with these frugal resources our pampered palates never suffered for a change.

The key to self sufficiency on a desert isle, as in any land, is resource utilization. In laymen's terms, "It's not what you have, but how you use it." In this respect I even outshone the natives, especially when it came to coconut and papaya.

The coconut was, quite literally, our "dairy queen," the cream of our crop, our very bread and butter. From this staple alone came our milk, our cream, our oil, our stock for soups, our "bottled" soda pop, three separate sources of salad material *par excellence*, a fruit, a nut, and flour.

To the peoples of the South Pacific, the coconut yields its greatest source of food in milk, which, for the sake of the uninitiated, is *not* the liquid residue that's found in the cavity of the familiar round brown nut, but the high carbohydrate, milky-white juice expressed from the grated nut meat.

The milk was not the only life-sustaining drink this island "staff of life" could furnish. To toast our successful life as beachcombers we raised our cups to coconut "champagne." Inside the immature green nut can be found up to one quart of a very thirst-quenching beverage; but it's not until the green husk takes on a yellowish cast that coconut "champagne" is at its best. Pop one open with a machete and it sparkles effervescently, nature's finest soft drink. (Only this naturally carbonated containerized soft drink had been around a hundred million years before the can was even thought of!)

When a fallen nut grows old it sends out roots and sprouts the shoot that will later become the tree. When this happens a strange phenomenon occurs within: the nut meat disappears to form a spongy

embryo that develops to feed the emerging shoot. This embryo is about the size and shape of a tennis ball, snowy white on the inside and butter yellow on the outside wrinkled surface. In the Cook Islands this spongy growth (that goes by the name of *uto*) is eaten often as a fruit or made into a punch. Raw, it tastes extremely sweet, far sweeter than the coconut meat and far easier to chew. Cooked it makes an excellent vegetable with a richness that makes a dab of butter redundant and an aroma that hints of something truly epicurean.

Coconut Cheese—The dried leaves of coconut made our mattress, lined our walls, and thatched our roof. The felled trunks of coconut formed the foundation of our home, they served as work benches, tables, chairs. The discarded husks ignited quickly and smoldered slowly, producing our briquets to bake our coconut-meal bread by. Even the empty sun-hardened shells were useful drinking cups. But perhaps the most significant product I produced from coconut was cheese.

This purely vegetarian "cheese" is known locally in Fiji as *kora*, and only in this Melanesian land did I hear of it being consumed. Put simply, it's the rotten gratings of spent coconut (after all the precious cream has been expressed); which isn't as repulsive as it first sounds when one considers that "real" cheese is simply rotten milk! Since most island countries do nothing more than feed this by-product to chickens, I found it fascinating that this and seawater (the two least valued products of the South Pacific) could be combined—through the magic of fermentation—to form its most delectable dish.

The process of this fermentation, which takes from six to seven days, adds important B vitamins and causes the coconut to dissolve into a creamy mush that is very like thick sour cream in texture and very like the finest flavored roquefort in taste.

The papaya, on the other hand, became my produce panacea, my South Seas supermarket. Hearing someone say, "I don't like papayas," was to me like saying, "I don't like fruits and vegetables," so great was the variety of edibles it supplied alone.

Depending on the ripeness of the papaya, I could make it taste like anything from carrots to pumpkin, squash to turnips, and apricots to peaches. In fact, during our sojourn in "paradise" I made so much use of papaya and did so with such enthusiasm I became known to many Fijians and travelers as "The Papaya Man."

The immature green fruit when peeled and grated, then soaked in salted water (to remove the slightly bitter milky sap), makes a very passable material for coleslaw and salads. Just peeled, chopped, and dropped in boiling water for 15 to 20 minutes, and green papaya forms an imitation summer squash.

It is from these same under-ripe papayas

(Continued on page 68)

Emergency Heat, Light:

Kerosene Heaters And Lanterns

Be they family heirlooms or modern store bought items, these devices can keep you alive and comfortable without electricity . . .

By Marc V. Ridenour

I HAVE a problem: I don't own a house or plot of ground I could pitch a tent on and live happily ever after. So, for an emergency source of light and heat I needed something that would do the job and yet be portable (I figure I better anticipate having to move should circumstances require it); something woodburning stoves are not very and fireplaces not at all.

So, I've settled for kerosene heaters and lanterns. The two shown are working family heirlooms; my father carried that larger lantern as a boy when he did his farm chores before sunrise, and before him, his father. I rescued it from our basement and put it to work once again. The carriage lantern was my grandfather's on my mother's side. Granddad bought it and it was handed down to my mother and when she appeared to show some lack of interest in it, I glommed it. I could buy a couple of new lanterns, true, but these are special; they've been in my family for generations and perhaps someday I shall pass them on to my children.

The kerosene heater shown is a Kero-Sun Moonlighter, no longer made, sad to say. It's a handy little multi-purpose device; the pyrex globe allows it to give light as well as heat, and the cooking rail shown with the accessories will let you cook on it too.

Toyostove, a new company that has apparently bought out Kero-Sun, produces similar, though slightly larger units known as the DC-80 and DC-100. They are limited primarily to a heating role; the birdcage-like safety screen surrounding them to prevent accidental burns by brushing inadvertently against the heater precludes use of cooking rails. The reduced transparent section of the heater jacket or drum reduces the light shed by that particular unit. If anything happened to my Moonlighter, I'd opt for one of those.

The accessories shown for the heater are everything required to keep it functioning over a prolonged period. I favor being prepared to replace essential parts if necessary.

The kerosene can and squeeze pump will enable you to fill your heater indoors with minimal danger of spills. The tommy

(Continued on page 34)

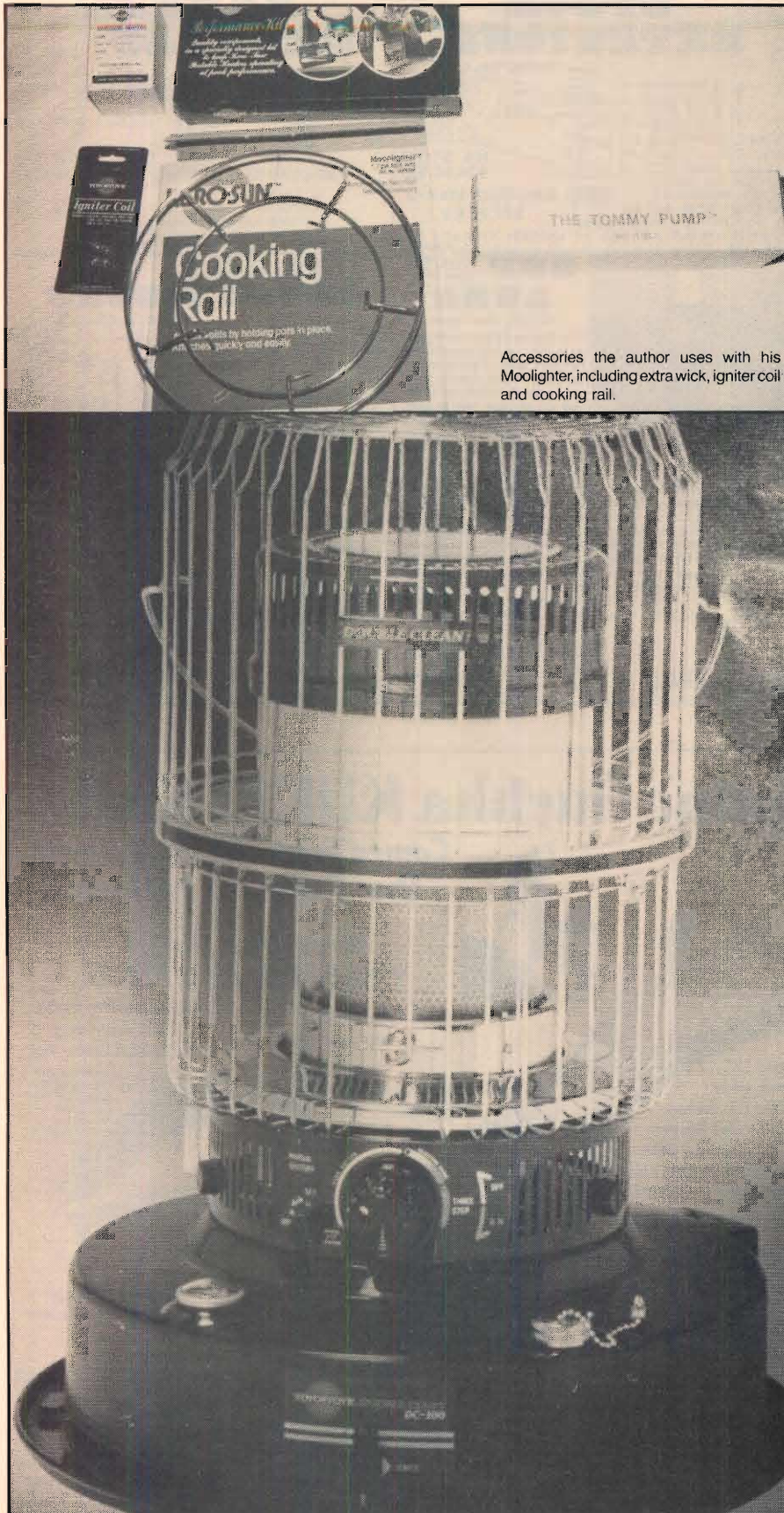
Author's family's old kerosene lanterns which he still uses today.



Kero-Sun Moonlighter heater also offers a light source. The squeeze pump and kerosene storage can are accessories.

Kerosene Heaters And Lanterns

(Continued from page 32)



The Toyostove DC-100 unit is similar to the Kero-Sun Moonlighter but provides less light. Safety birdcage around unit protects against accidental contact.

pump shown with the accessories is a small hand pump that mounts directly to the can, and will pump a bit faster.

Like any combustion device, the kerosene heater must not be used in a sealed room. To insure adequate ventilation, open at least one window at least an inch to allow fresh air to enter. If you have two windows on different sides of the room you may wish to open one for ventilation and the other for cross-ventilation to enable exhaust gasses to escape. It's a shame that windows no longer open at the top as well as the bottom as they were once designed to do to allow the bottom section to act as the air intake and the top section to be the exhaust.

Keeping the heater at least three feet (authorities sometimes recommended six feet) from any walls or furniture and well away from curtains or drapes is essential. Leaving a heater lit unattended or when everyone is sleeping may not be wise. If necessary to have the heater going at night, organize a fire watch with at least one person awake an hour or two, in turn, during the night just in case.

Kerosene is less volatile than gasoline, with a higher flash point, so it's somewhat safer to store, but remember it's flammable. Whatever safety precautions are recommended with gasoline should be followed when handling kerosene as well.

Storage should be in a cool, dry place. Storage inside the home is not recommended, but if this is done then keep a minimum amount on hand—absolutely no more than 5 gallons in an approved container is how the local ordinance covering flammables like gas and kerosene specifies the amount you may keep in a can.

True, it's a potential hazard, but anything can be if mishandled. It is prudent to keep one or two CO₂, foam or dry-chemical fire extinguishers handy. Water WILL NOT put out flammable liquids; it just spreads them around—water being heavier than the burning liquid.

Large amounts of baking soda, buckets of sand or dirt or salt are recommended as improvised firefighting agents against flammable-liquid fires.

What would you do if the lights went out and the furnace conked out for a few days, not just a couple of hours, during a bad cold spell? It happened before on the East Coast, and lasted for several days in some major urban centers or the suburbs. The possibility of it happening again is not so remote as some would like to think.

If you are prepared you can weather the worst of it in your own home, rather than go to a quite probably overcrowded shelter where everything might be in short supply.

With a kerosene heater and a couple of lanterns, you can make your home a snug haven amid the cold and snow of a bitter winter's night. ●

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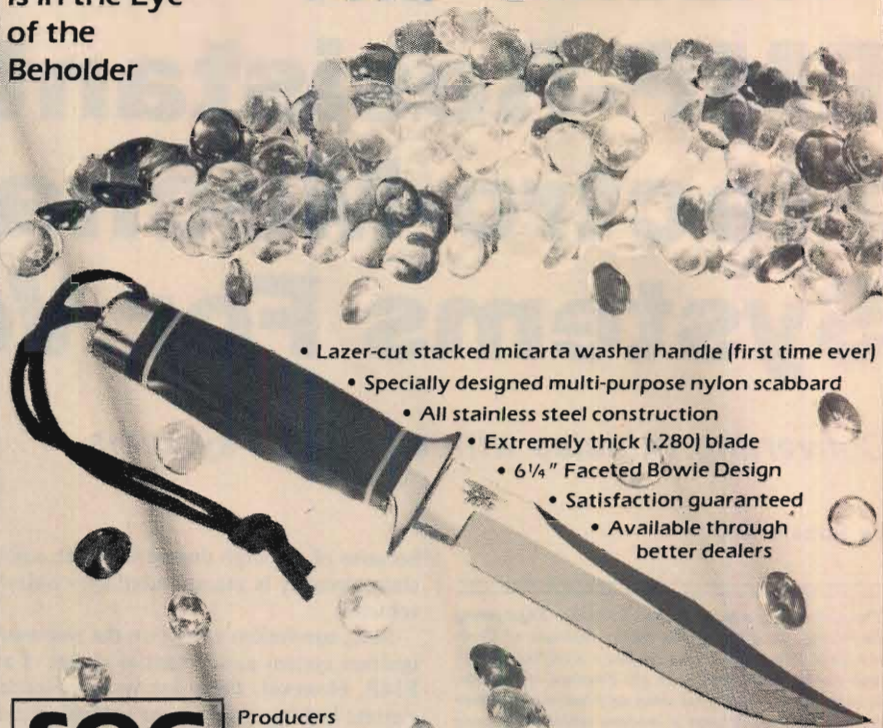
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FEBRUARY 1988/AMERICAN SURVIVAL GUIDE 35

Electromagnetic Pulse:

EMP-Resistant Electro-Mechanical Systems For Vehicles

Converting vehicles with electronic systems . . .

By Ronald Kay

The author, a graduate of the Electronics Engineering Technology program of the DeVry Institute of Technology in Toronto, Canada, is also a qualified class A motor vehicle mechanic with the Province of Ontario. In this article he gives his views on what modifications are necessary to convert a modern vehicle to a more EMP-resistant one. But he cautions that the described modifications will have some negative results, mainly concerning pollution control systems. In order for a vehicle to meet exhaust emission standards, it must be left as it came from the factory. Converting to contact point ignition will leave the vehicle unable to meet pollution control standards and there is also a possibility of a vehicle fire as a result of the modifications, he states. There may be other possible consequences of such modifications which he is not aware of since he has not actually attempted these changes. This article is for information purposes only—The editors.

THE electromagnetic pulse (EMP) that occurs with nuclear detonation will devastate most solid-state circuitry. This can disable most modern automobiles

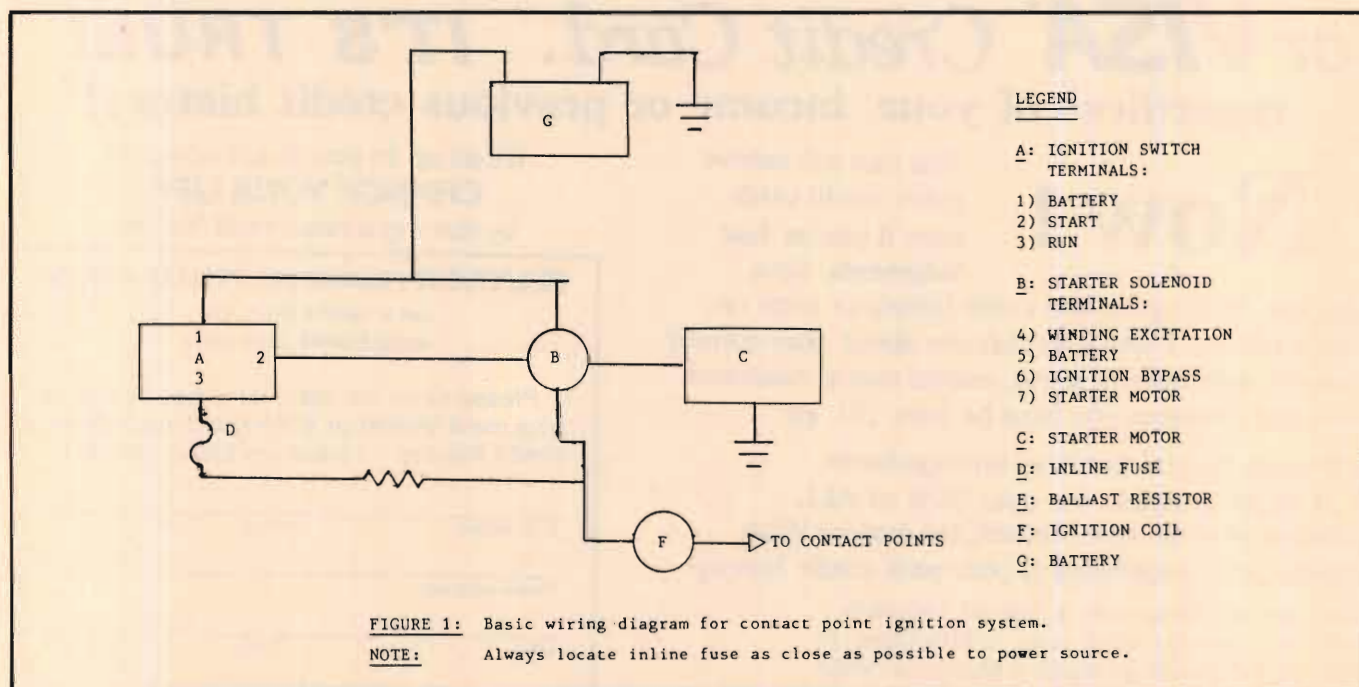
because of the high degree to which solid-state circuitry is incorporated into today's vehicles.

Most survivalists recognize the electronic ignition system as a potential victim of an EMP. However, there are more potential victims lurking within your vehicle. Solid-state circuitry is used in most of the essential systems of the vehicle including the charging system, fuel injection, electronic engine control, anti-lock brakes . . . the list goes on. Even seemingly innocent systems such as pulse windshield wipers, cruise control, and climate control employ electronic circuitry. Even if your vehicle is equipped with a Diesel engine (you thought they were EMP proof because they do not have an ignition system, right?) there may be an electronic control system to operate the glow plugs.

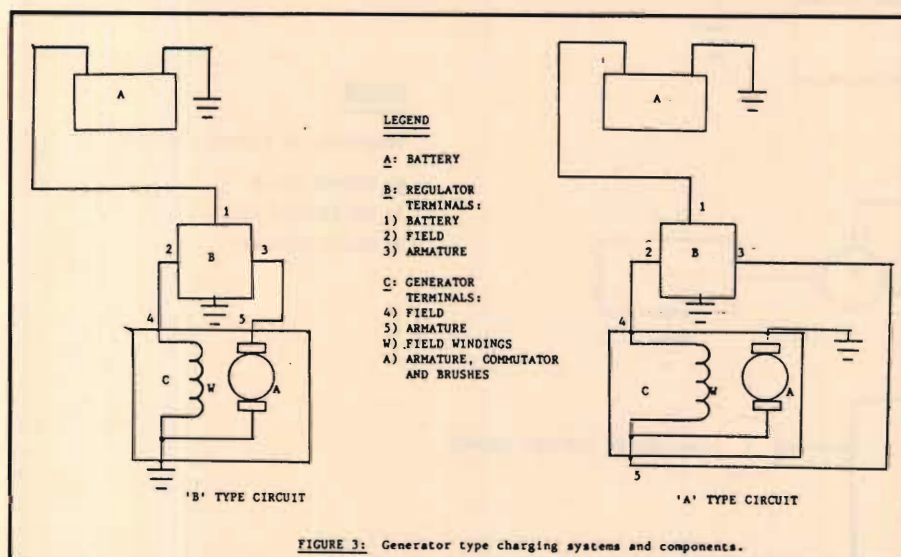
The logical solution to the problem of EMP proofing is to start with a vehicle pro-

duced before any such electronics were available. You will have to go back quite a few years for this! Most modern vehicles will likely incorporate a few solid-state systems that will be discussed in this article. Going beyond the extent of this article would require removal of some of the more complex systems. This will be extremely expensive, in some cases impossible. In any case, it is best to start with a vehicle equipped with an engine that was produced in the model years when the basic electro-mechanical systems that have been replaced by electronics were factory installed.

When you do remove any factory installed system to replace it with anything except an identical system, give the following consideration: electronic systems were incorporated into vehicles at the factory in part to enable the vehicle to meet safety



EMP-Resistant Electro-Mechanical Systems For Vehicles



working on your vehicle's electrical system.

Contact Point Conversion—Referring to Figure 1, the contact point ignition system is powered by the ignition feed wire. This wire runs through the firewall, from the ignition switch "run" terminal to the ballast resistor. This wire should be run through an existing rubber grommet. If this is not possible, drill a new hole and install a rubber grommet in it. All wiring for the ignition system primary wiring should be at least 14 gauge. The inline fuse should not exceed 10 amperes. It may be easiest to connect the ignition feed wire to an existing wire running off the ignition switch run terminal.

The ballast resistor plays a crucial role in the operation of the ignition system. Its purpose is to reduce the amount of power delivered to the ignition coil to prevent the contact points from burning. The ballast resistor may be one available for a Chrysler product equipped with contact point ignition system. Some vehicles' ballast resistor was in the form of a resistance wire that makes up part of the ignition feed wire. If you choose to go this route, then you will have to determine what (the correct) length of resistance wire will give correct resistance for your vehicle. The ballast resistor will become quite hot when operating. It must be located under the hood, where it will not ignite any flammable material.

The ballast resistor is bypassed when the engine is being started. This allows maximum output from the ignition coil while the engine is being started. This was accomplished by connecting the positive terminal of the ignition coil to the ignition bypass terminal of the starter solenoid. If your vehicle does not have any such terminal, refer to Figure 2, or install a suitable starter solenoid. Do not, under any circumstances, connect the ignition coil directly to the starter motor circuit for this purpose.

Some electronic ignition systems use wide gap spark plugs. If this is the case for your vehicle, then obtain standard gap spark plugs to fit your vehicle of the proper heat range. In any case, gap your spark plugs to correspond with the specifications for the model year vehicle you have obtained a contact point distributor for.

As for what other parts may be re-used with your contact point ignition system, this will vary depending on model and year of your vehicle. Obtain all replacement parts for one particular model year.

Before attempting to install the contact point ignition system, ensure that the ignition switch will ground the ignition feed wire when the key is in the off position. This allows the condenser (or capacitor) connected across the contact points to discharge. The condenser builds up a voltage of several hundred volts which can give a severe electric shock. Exercise extreme caution when working with the ignition system as secondary voltage can build up to tens of thousands of volts.

Charging System—Modifying the charging system will be considerably more difficult than the ignition system because of the scarcity of bolt-on replacement parts. Most automobile manufacturers discontinued generators in favor of alternators in the early 1960s.

If it is not possible to procure an OEM type generator, then investigate what is available from aftermarket manufacturers. Be sure it is available with a mechanical voltage regulator. Its internal circuitry should be similar to the OEM generators. Most of the available OEM units will not produce output currents that match today's alternators, nor can they be turned as fast. Generators do not produce high current at low and idle engine speeds. Prudent operation of the vehicle will become necessary to maintain a fully charged battery while using power

accessories.

Generators were produced for both 12- and 6-volt electrical systems. Be sure to obtain the correct voltage for your vehicle, as well as a unit that was designed to turn in the direction your engine will turn it. Although most American vehicles are negative ground, ensure the generator will be compatible with your vehicle's ground polarity.

There were two basic circuits used by automobile manufacturers for the purpose of connecting the generator's field windings to the voltage regulator. They are known as the "A" and "B" type circuits. They are shown in Figure 3. The difference between the two systems is beyond the scope of this article, but when selecting a generator, be sure to obtain the voltage regulator that is designed to operate with it, since these components are not interchangeable between the two circuits. If you have obtained an OEM generator and mounting brackets to fit your engine, great. If not, you will have to design the brackets yourself.

You will notice that the generator output or armature terminal is not connected directly to the battery as is the alternator. The generator is connected to the battery via the voltage regulator. The purpose for this is to prevent the generator from drawing power from the battery and turning like an electric motor when the engine is stopped or idling. The generator charging system is not connected to the ignition switch since it will start and shut off based on the armature shaft rotating or not. There is no easy way to connect the charging system indicator light incorporated into some alternator systems to the generator. If your vehicle is so equipped, then disconnect the light and install a volt meter or ammeter.

Your vehicle's electrical system will not require extensive modification to accept the generator. Before installing such a system, make sure all components are compatible. If you are using used units, have them bench tested by a qualified technician. He will be able to adjust the voltage regulator, as well as tell you what type of wiring system is necessary. Use a gauge of wire suitable to carry the generator's maximum output current. Mount the voltage regulator under the hood where it can be safely accessed for adjustment while the engine is running. Be sure its frame is well grounded.

If the generator has been sitting idle for some time, or it has been disassembled, it may become necessary to polarize it before it will work. Consult a service manual for this procedure. Unfortunately, there is not as much detailed information available for generator systems as is desirable. The diagrams in Figure 3 are only very basic. If there is any difference between what you have obtained and what is shown, get expert advice before installation. ●



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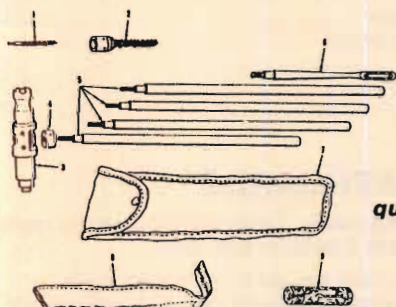
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	.30 Swedish Drop Through Bore Cleaning Kit, Swedish army issue	.75 3/2.00
	General Purpose Cleaning Brush, brass bristles, plastic handle, perfect for weapon cleaning, heavy duty	1.25 2/2.00
new listing	General Purpose Cleaning Brush, stainless steel, wood handle, perfect for weapon cleaning	1.50 3/4.00

SIZZLING SIERRA SUPPLY SHOOTER SPECIALS

new listing	Foam Ear Plugs, adjustable foam plugs that can be used once or over and over, 1 size fits all, bright yellow, not .75 per pair like my competitors	4 pairs/1.00
new listing	.30 Bore Brushes, made in the 1940's, brass construction, not bright and shiny but plenty of life left	new 3/1.00 used 5/1.00

SIZZLING SIERRA SUPPLY SHOOTER SPECIALS

SPECIALS SPECIALS SPECIALS SPECIALS

Grenade Launcher Sight: complete assembly for mounting on the receivers of the M-14, M-1 Carbine & M-1 Garand. The kit contains dated instructions, sight bubble mount & base mount, new in the wrap 75 3/2.00
 Camouflage Face Paint: all colors, current issue, current contract. Color choices; black & white, light green/dark green, light green & sand. Not \$2.00 like the other dealers per tube 1.50
 3 tubes 4.00



SCALPEL BLADE #11
 GREAT FOR SURVIVAL KITS
 \$1.25 5/5.00
 NEW IN STERILE WRAP

quantity buy

new listing

super buy

American Flag Patches; full color, high quality made in the U.S. of course, measures 2x3 inches 1.25
 Bore Lights; check the barrels of your weapons easily with this handy device. Powered by a double AA battery, this unique design features a push button on/off switch so the light will not accidentally come on. Imported, battery included 2.75 2/5.00
 Winter Camouflage Shooters Mittens; complete with wool liners. Made of surplus heavy canvas & leather. Made to fire weapons while wearing 12.75

GRAPHIC TRAINING AIDS

Small pocket sized cards with pertinent information for the soldier. Rare & in limited supply.



new low price

new low price

GTA 21-2-9 1971 Small Unit Leaders Card 1.25
 GTA 3-7-2 Nuclear, Biological & Chemical Guide 2.00
 GTA 5-7-4 Bridge Classification Card, weather proof 1.50
 GTA 5-10-9 Demolition Card, weather proof 2.00
 GTA 8-5-40 Wind Chill Card75
 GTA 29572 Radiological Defense Guide75

GRAPHIC TRAINING AID FLASHCARDS

These flashcards are the size of regular playing cards. They are designed to rapidly train soldiers the information they contain. Rare & seldom available.



INERT GRENADES
 \$5.00, 2/\$9.50

new listing

new listing

quantity buy

Survival Cards For S.E. Asia GTA 21-7-1 1968, rare, issued to troops going to Viet Nam. Color plates showing poisonous snakes, insects, plants & insects, etc. New in box 2.50
 Armored Vehicle Recognition Cards GTA 17-2-13, these cards show all of the Nato & Soviet Bloc tanks, APC's in a frontal, side & scale to a 6ft. man. very complete & extremely interesting. 2.50
 Visual Aircraft Recognition Cards GTA 44-2-1 1977, these cards show in great detail all of the US & Soviet BLOC jets, helicopters & transport aircraft from several different angles. 2.50
 Set Of All The Above Card Sets 6.75

FIRST AID GEAR & MANUALS

Suture Removal Kit, use to remove splinters & stitches 3.50
 Triangle Dressings, camouflage cotton muslin, can be used for splints, bandages, slings, bandanas & dressings, limited supply 1.75
 Triangle Dressing, as described above with nylon dressing carrier 4.75
 Scalpel Blades, #11, can be used without the scalpel handle if necessary, great for first aid kits, survival kits & hollow handles field knives 1.25 5/5.00
 First Aid For Soldiers FM 21-11 1977 5.50
 Pocket Medic TC 21-11 1977 2.50
 Medical Specialist FM 8-230 1984 15.00
 Medical Aidman Guide FM 8-36 1973 5.25

MILITARY FIELD JACKETS

These field jackets are as issued; featuring 2 bellowed pockets, hood, velcro wrist adjustment tabs, brass zippers, water repellant finish & 2 hand warmer type pockets. A true value. Specify small, medium, large or x-large.



new listing

new listing

new listing

Olive Drab
 Woodland Print
 Tiger Stripe 44.95
 Field Jacket Liner, synthetic insulation, very warm, buttons into the field jacket 15.50
 Field Jacket complete with liner 57.50

INERT GRENADES

Training grenades that are totally inert & harmless MK2, pineapple style, fuse assembly removes from body 5.00
 M33 fragmentation grenade, Viet Nam era "baseball" fuse removes from body 5.00
 2/9.50

quantity buy



MILITARY WEAPON LUBRICANTS & SOLVENTS

throw your commercial weapon solvents & lubricants away, this stuff works

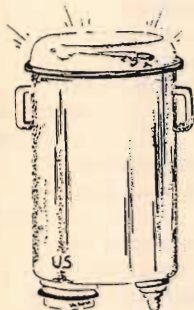
LSA 8 ounce size, tube	3.00	3/8.00
LSA 4 ounce, squeeze bottle	1.75	3/5.00
LSA 2 ounce, squeeze bottle	1.25	2/2.00

LSA is an all environment lubricant that will not break down under extreme temperatures. LSA kept the M-16 operational in Viet Nam.

Break Free 3/4 ounce squeeze bottle, fits into buttstocks & tackle boxes	1.25
Break Free, 2 ounce aerosol spray	2.50 2/4.50
Break Free, 5 ounce aerosol spray	3.75 2/6.50

Break Free cleans, lubricates & preserves with 1 application. Designed for precision metal parts.

new listing
new listing



USAF XENON STROBE LIGHT
NEW ISSUE IN THE BOX
\$29.95 WHY PAY MORE????
LIMITED SUPPLY

VIET NAM MEMORABILIA

new listing
new listing

Viet Nam Hat/Lapel Pin, black & red	1.25	2/2.00
Viet Nam Veterans License Plate, 3 color design, well made to last	2.50	
Viet Nam Year Tabs, subdued design, black stitching on od background. Featuring years 1961-1975, specify year	2.00	
Viet Nam Belt Buckle, 3 color design depicting a typical combat scene. Made to last with the inscription "Forget Nam? Never"	5.95	
Viet Nam Veterans Of America, oval patch in 3 colors (white, gold & green) great on baseball caps, 3 inch diameter	3.50	

new listing

SURVIVAL EQUIPMENT

new listing

Air Force Xenon Strobe Light, issued to pilots to be seen long distances in case of bail out situation. This unit produces a brilliant bright light that can be seen a long distance away. Visibility rated 15 miles at 1500 foot elevation.

New in the box with a new battery

Replacement Battery, guaranteed fresh

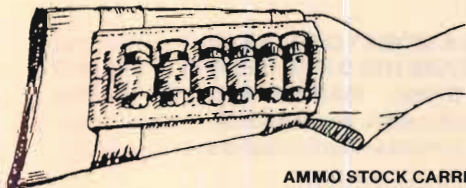
the above items are in limited supply, act now

Survival Signal Mirror, 2x3 inches, laminated glass, drilled for lanyard, grid center for lining up aircraft. Can be seen far away, can also be used as a magnifying glass

Survival Signal Mirror, same as above but 3x5 inches

new listing

USAF XENON STROBE BATTERY,
\$8.00 WHY PAY MORE?????



AMMO STOCK CARRIERS
RIFLE OR SHOTGUN

MISC. COMMERCIAL WEAPON ACCESSORIES

Full Moon Clips, fits model 17 & model 25 .45 Long Colt, instead of using flimsy 1/2 moon clips use full moon clips that are much sturdier.

Not .75 each like my competitors but

Shotgun Stock Carrier, a high quality ammo carrier that carries 6 12, 16 or 20 gauge shot shells. Made of heavy duty nylon, velcro & elastic material. Versatile, will fit all shot gun stocks on the market as the unit is very adjustable

Rifle Cartridge Stock Carrier, same as above unit but will carry 8 rifle cartridges from 6mm to .458 calibers.

SIERRA SUPPLY REPEAT BEST SELLERS

the merchandise listed below are best sellers that my competitors can't touch with their high overhead, full color cataloges, giant warehouses & many employees.

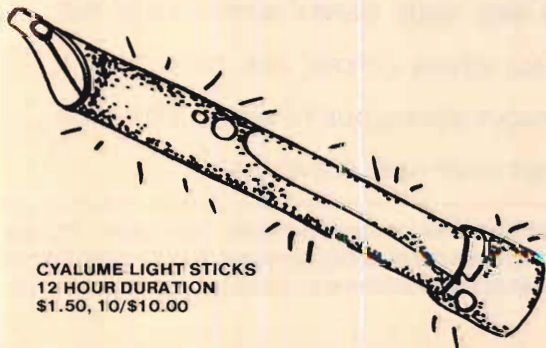
Lensatic Compass, GI, current contract compass that the US Military has been using for 30 plus years. Aluminum alloy case, induction dampened to take maximum abuse, sighting lens, mil/degree bezel, od nylon cord complete with nylon carrying case. The scale on the side corresponds to all Govt. Survey & topo. maps.

My competitors charge up to \$42.00 for the same unit. WHY PAY MORE??? ...

Military Lensatic Compass/Complete with Manual

Cyalume Light Sticks, a non toxic, weather proof, element proof, chemical luminescence light source. Does not give off any heat, sparks or flame, great for emergencies, 12 hour rates, will give off 9 hours of bright light & glows for 3 hours. Sealed in foil wrap. Very Limited Supply Left

Not \$2.50



CYALUME LIGHT STICKS
12 HOUR DURATION
\$1.50, 10/\$10.00



AK-47/TYPE 56
30 ROUND MAGAZINES
\$14.95

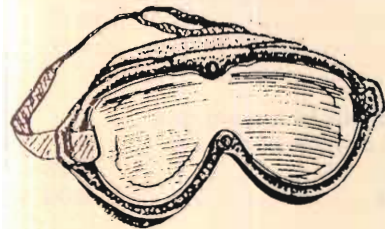
new listing
new listing

Sierra Supply Exclusive



SOVIET BLOC AK-47
MAGAZINE CARRIER. WILL
CARRY MANY TYPES OF 30 & 40
ROUND MAGAZINES. \$18.00

Sierra Supply Exclusive



GI SUN, WIND & DUST GOGGLES,
NEW IN BOX \$13.95. WHY PAY
MORE???

Sierra Supply Exclusive

LATE ARRIVALS

.223 MAGAZINE SPECIALS

- M-16 Israeli Zytel Nylon 30 Round Magazines, guaranteed not to break,**
split or otherwise not function. Combat proven, used, very good condition 4.00
- Galil .223 35 Round Magazines, steel construction, used, very good condition.**
Not \$15.00 but 13.50 2/26.00
- AK 47 30 Round Magazines, new in the wrap, Chinese Mfg.** 14.95
- AK 47 Magazine Charger: made of steel and uses SKS/AK 47 stripper clips,**
very rare, Chinese Army issue 15.00
- AK 47 Magazine Carrier, made in Eastern Europe, actual Soviet Army Issue, will**
carry 4 30 round AK 47 magazines or 4 35 round Galil Magazines or
commercial Mini 14 & AR 15 40 round magazines. The carrier can be
carried over your shoulder via adjustable shoulder strap and or can be
carried on a belt. Made of very heavy duty canvas that is a OD khaki color.
The carrier has a small pouch on either side that can carry an oiler & cleaning kit.
Act now as the supply is very limited. 18.00
- GI Sun, Wind & Dust Goggles; great eye protection for all outdoor activities,**
complete as issued with extra clear & gray lenses. Packed in a stout box
for great storage in the field. Not 15.00 but 13.95
- Quart Bladder Canteen/Flotation Device/Pillow; a commercial version of the**
Viet Nam canteen. Complete as issued with the nylon carrier, stainless
steel strainer to prevent small debris from going into the canteen when filling
up in a stream & a bottle of water purification tablets. This unit is identical
to the original (circa 1969) and as always your satisfaction is guaranteed.
Not 22.95 but 19.95
- Soviet Word Recognition, Common Military Terms GTA 21-1-5 1985. 54**
study cards with Russian Military terms with correct pronunciation, spelling,
etc. on a playing card. Play cards while you learn a foreign language, very
rare, never before offered, act now as supply is limited 4.00
- NBC Protection FM 3-4 1985. The latest field manual on NBC warfare,**
protection, defensive preparations, protective gear, etc. The latest & most up
to date information. First time offered 8.95
- OD Parachute Cord, triple strand construction, not a commercial**
copy per 20 feet 1.00
per 50 feet 2.50

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\$10.00 minimum order. **CASHIERS CHECKS & MONEY ORDERS** get first & prompt
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DAYS UNTIL THE CHECK CLEARS THE BANK. MASTER CHARGE & VISA
CREDIT CARDS GLADLY ACCEPTED. No back orders, merchandise or refund promp-
tly sent. See the below shipping chart for the correct amount to send with your order.
NO COD ORDERS ACCEPTED.

SHIPPING, HANDLING & INSURANCE CHART

Orders from \$ 10.00 to \$25.00 add \$3.00	*orders over \$150.00 sent post paid in cont. US only
\$ 25.00 to \$ 40.00 add \$4.00	*P.O. Boxes add \$2.00
\$ 40.00 to \$ 70.00 add \$4.75	*APO/FPO add \$2.50
\$ 70.00 to \$100.00 add \$6.00	*does not apply to MRE orders
\$100.00 to \$150.00 add \$7.50	*actual order must exceed \$150.00 to qualify

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SIERRA SUPPLY CUSTOMERS: Another new catalogue made possible by your repeat business, continued loyalty, feed back. We are
introducing 76 new products & have lowered the price on 20 others. We were also able to increase our quantity buys due to increased volume
buys. Even though we were forced to raise some prices on merchandise passed on by our vendors, our prices are still quite reasonable in com-
parison. This has all been made possible by you the customer, many thanks.

Sierra Supply

SIG-AMT Sporter Rifle

(Continued from page 27)

"I've always wanted one of these rifles," said a friend who showed me the ad. "They're considered the Cadillac of assault rifles." He decided he was going to buy the AMT. It would make a nice addition to his gun collection, he said. Shortly thereafter, he went down and bought the SIG-AMT, and, to my delight, agreed to let us photograph it and do some limited test shooting with it for *ASG*.

The semiautomatic SIG-AMT sporting rifle is a delayed-blowback weapon with stationary barrel and semi-rigid breech. In the breech head is a loading indicator that lets the shooter check by sight or feel if the weapon is loaded. The rifle's roller-locked breech system with gas-assisted action provides both superior accuracy and only about five pounds of shoulder recoil. The rifle is equipped with a fold-down winter trigger to allow firing while wearing mittens.

The adjustable front post sight has protective wings and the aperture rear battle sight is adjustable from 100 to 600 meters.

The buttstock and forend are polished walnut. The AMT has a bipod that folds flat against the upper barrel jacket.

The rifle we had came with a flash suppressor, 20-round magazine, sling and cleaning kit. It field strips for cleaning in seconds without tools and resembles just as quickly and easily.

Since we had agreed to handle this expensive weapon with great care to keep it in mint condition, we fired it only a few times, running perhaps 25 rounds of .308 ammunition through it. It had been factory zeroed for about 100 yards and using the bipod and a rifle rest we were easily able to punch holes near the center of our targets. The trigger has an eight-pound pull to it but is uniformly smooth all the way to let-off.

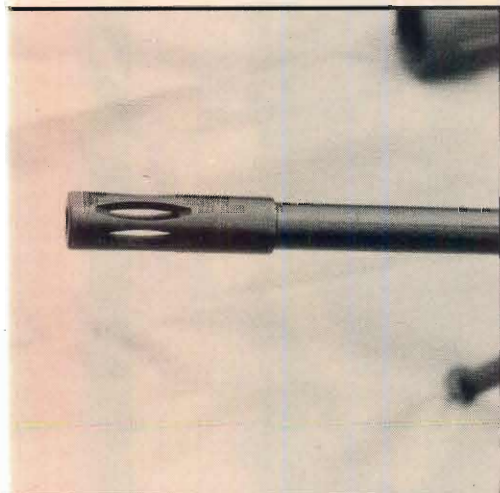
We found the AMT to be a powerful, accurate, precisely-functioning rifle worthy of the SIG tradition of excellence and quality. ●



The safety lever must be in the safe or "S" position to chamber a round and cock the rifle. The safety lever must then be moved down to the "1" position, shown here before the rifle will fire.



The AMT field strips in seconds without tools and reassembles just as fast.



AMT flash suppressor.

SIG-AMT .308 Semiautomatic Sporting Rifle: Tech Specs

Caliber	7.62 x 51mm NATO/.308 Win.
Velocity	2,600 fps
Length:	
Overall	38.9 inches w/o flash suppressor
Barrel	18.9 inches
Total weight	10 pounds
Trigger weight	7.7 pounds
Sights	Front post with protective wings, adjustable; rear peep sight adjustable for 110-650 yards
Sight radius	21 inches
Magazine capacity	20 rounds, 5, 10 rounds Optional
Manufacturer	SIG, Switzerland
Price, suggested retail	About \$2,500

Communications:

Tune In The World

A review of a classic Amateur Radio training aid . . .

By J. Lincoln Thorner

I'VE been an Amateur Radio operator for almost 25 years, and communications has become a big part of my family's survivalist preparations. I believe that good communications planning should be a part of every survivalist individual's or group's program. Amateur Radio is a priceless gateway to training for and building a really first class communications capability.

For many years I've been instructing people in electronics and Morse code in preparation for getting their Ham licenses. The primary training aid I've used has been *TUNE IN THE WORLD*, a text book and Morse code cassette published by the national Ham organization, the American Radio Relay League. The current editor for it, at the ARRL, is Larry Wolfgang. It retails for \$10.

I've used it because, frankly, it has been the only reasonably priced, popular Ham license training set available. There have been times, over the many years that has been published, that I've been less than pleased about recommending it to my students. It has evolved through many forms. The text has been in pamphlet and work book form, among other things, and has often been a bit crude. This has always puzzled me a bit since the ARRL is a leading publisher of text books and operating manuals on communications electronics and Ham radio. Well, the puzzlement is over, the new version of *TITW* is *wonderful*! I would go as far as to say that it may be the best put together book in the ARRL's rather large, and rather good line of publications.

The cassette tape that comes with the set, which instructs the prospective Ham in Morse code has stayed pretty much unchanged over the years, with its virtues and shortcomings (more about it later), but the large format, soft cover book has made this, now, a product that I can recommend without reservation to any prospective licensee, whether studying alone, in a group, with or without an instructor!

This book is so good that I'd like to recommend to the readers who are already Hams that they consider buying it. It makes a heck of a good all around reference book. The book alone, incidentally, can be had for only \$7. It is introduced by



Owen Garriott, W5LFL, the veteran space shuttle astronaut. He was the first to operate his station from space. Of course space communications is old hat to Hams, who have pioneered development of their own communications satellites, moon bounce communications, and even bouncing radio signals off the ionized trails that meteorites leave (as unlikely as that sounds, it has now become an *important* new military mode of communications . . . what will they think of next!).

The book describes stuff like that, the history of Hamming, its special accomplishments, the various sub-hobbies, the people who get into it (senators, kings, scientists, kids, old timers, and us ordinary folks . . . of course). In other words, besides being the best darn technical teaching manual I've seen in an awfully long time, *TUNE IN THE WORLD* tells you plenty about *why* to be a Ham, as well as how. The book is full of little box articles, side-bars, a technique that I really like as it affords me the opportunity to learn something completely every time I can snatch a couple of minutes to read. All too often a couple of minutes is all I can spare, and these many interesting mini-articles also help break up the tiring task of studying the text in a constructive way.

Radio Spectrum—The book covers what the radio spectrum is and how Amateur Radio fits in, Morse code, electrical theory, components and practical circuits, selecting equipment, antennas, assembling a station, getting on the air ("painlessly"), and, thoughtfully, what to do if things go wrong! Not only all this, but a complete list of all the possible questions that come from the Federal Communications Commission . . . and their answers (no kidding!). When I went up for my various Ham and Commercial licenses I would have killed for a look at the question pool, let alone the *answers!* But, it's legit, and makes preparing for your first ticket a great deal less terrifying.

Some of the really important things I like about *TITW* are that it really, really, gives you overall, complete preparation for your first license, and a great survey of Hamming, with plenty of motivation for licensure . . . including lots of things of specific interest to survivalists. It's guide to selecting equipment is wonderful. To the beginning Ham specifications, terms, what's important and what's not, what to look for and what to avoid are a vast and complex mystery. Boy, do I wish I had this when I was starting out.

It even gives a lot of information on what's up with older, used gear. There is a lot of really high quality second hand radio equipment out there, and if you're like me and budget considerations are important this information is super. I like Larry Wolfgang's practice of giving really practical advice, stuff that you can really use (it's good advice . . . I learned most of it

(Continued on page 58)

Professional Locksmithing Tools

LOCKAID

Specifically designed to pick tumbler locks. Designed over thirty years ago to aid law enforcement agencies. Consists of tension wrench, three needles and Lockaid "Gun." Prices include a copy of the book "Lock Picking Simplified."

Lockaid \$59.95



PIX-QUICK MODEL A

These high quality picks feature new lighter non-breakable plastic color coded handles. Picks are of .022 blue spring steel . . . hardened to perfection. Eight piece set comes with handy see-through case with two extra pockets and a copy of "Lock-picking Simplified."

Model A \$19.95



PIX MODEL 13

This deluxe yet compact kit features 11 of the most commonly used tools. Comes in a slim cowhide leather case for discreet undercover operatives. As a special bonus, a 5 piece set of **warded picks** is included. A 16 piece set total. Also included, a copy of "Lockpicking Simplified." Receive all this at a Low price of:

PIX 13 \$39.95



PIX-QUICK MODEL B

Same color coded set as Model A. Only with deluxe 13 pieces. Price includes tension wrench and book.

Model B \$27.95

BOOKS

Lockpicking Simplified	\$6.00	Safe & Valut manipulation	\$9.95
Complete Guide to Lockpicking	\$9.00	How to Pick Pins & Wafers	\$8.95
Improvised Lock Picks	\$9.95	Combination Locks	\$6.00
Tubular Locks	\$7.95	Keys by Impressioning	\$6.00
Lockout and forced entry	\$7.95		



ESP-13

This handy new pick set is the most popular set among professional locksmiths today. This kit consists of 12 different tools housed in a handsome black leather case designed for a shirt pocket. Included in the price, you receive a 5 piece **warded key set** and a copy of "Lockpicking Simplified." 17 piece set total.

ESP-13 \$42.95



KEY RING PICK SET



This unique design is ideal when low profile is required or to keep on your keyring for emergencies. Contains a tension wrench, three picks and the "Key Pick."

Key Ring Pick Set \$24.95



DOUBLE SIDED DISK TUMBLER PICKS

Set of 4 picks designed to be used on the most popular double-sided disc tumbler, showcase, cam and padlocks.

\$24.95

MINI PICK TUBULAR

The most effective tubular pick on the market, unlike the larger picks with long handles or screwdriver handles. The longer the tool, the more pressure needed which causes easy breakage. The advantage of the Mini Pick is it is so short, you only use your thumb and index finger. With a little practice this tool will open a tubular lock in less than a minute.

A. Your Choice: (1) Center (2) Offset left (3) Offset right; B. "Segal" 8 pin tubular; C. 5-pin Tubular; D. 6-pin Tubular; E. 8-Pin Ace.



\$59.95

SESAMEE DECODER

This tool was designed to decode the exact combination of a sesame padlock without damaging the lock. Detailed instruction included.



\$17.95

SCHLAGE WAFER

The most fantastic tool you will ever use. This set consists of two base keys and pick. Complete instructions included.



\$24.95

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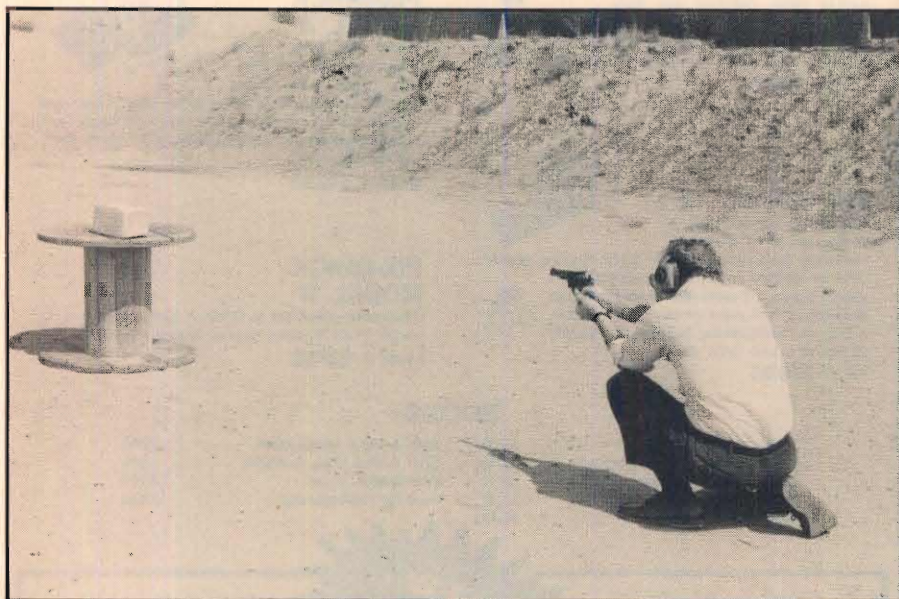


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Self-Defense Ammo:

MagSafe



This 25-pound clay block is 10 inches long. A MagSafe .357 Magnum penetrated only four inches while creating this cavity. Revolver is a Dan Wesson four-inch.

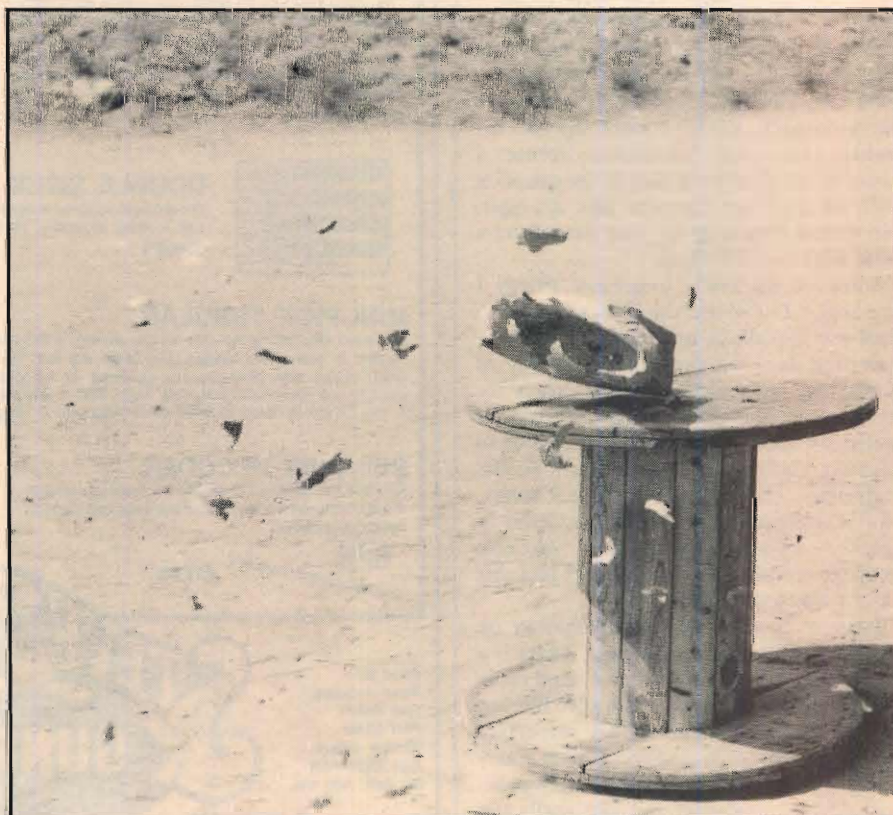
New 'frangible' handgun loads for home defense . . .

By Bud Lang

SERIOUSLY believing that most conventional handgun bullets tend to over-penetrate their targets, Joe Zambone, a fellow interested in self survival, developed a line of ammunition that he feels is the answer to this problem. Called "MagSafe" ammo, it incorporates what he terms "controlled-core" technology, that results in a "frangible" projectile which remains intact during flight, shatters violently on impact, and dumps all its stopping energy in the target.

MagSafe ammo is available in a wide variety of calibers and types, enough to satisfy just about any handgunner. You'll find loadings in .38 Special, .357 Magnum, .41 Magnum, .44 Special, .44 Magnum, .45 Colt, .45 ACP, 9mm Parabellum and .44-40. What makes MagSafe different from conventional, and most other self-defense, rounds is its thin copper jackets are loaded with chilled lead pellets (size dependent upon caliber and designed use) and a semi-flexible resin which reportedly bonds and cushions the inner core. A brittle epoxy caps things off. These epoxies are produced in a number of different colors that tell you what kind of ammo you have in hand.

The manufacturer makes a lot of claims in his literature about how their ammo is better than anything else around, but we have to wonder how all of the data was



One of MagSafe's .45 ACP rounds lifted this clay block off the boards. Pieces of clay are caught in the air as block exploded.

gathered, and who volunteered to be a target when they make claims such as "will not penetrate a human torso" and "expands rapidly on flesh at a controlled rate to reach deep into vital organs."

Not finding any volunteers when we tested samples of MagSafe ammo, the author used 25 pound blocks of ceramic clay instead, bearing in mind that this media's affect on bullet performance is quite different than animate objects. What we learned by firing into clay blocks was that MagSafe ammo will disintegrate and cause large cavities. Whether it does so at a "controlled rate," we have no idea. The epoxy used to bond the pellets broke up into fragments. It does "bond" them (the pellets) together, but "cushion" them? We really can't say.

Due to its design, MagSafe ammo should substantially reduce chances of over-penetration of animate targets. Where the target is hit (arm, thigh, chest, etc.) will have a bearing on this factor, too. It is the author's opinion that what makes this ammo effective is its thin-wall copper jacket, which breaks quickly on impact.

In summation, we feel the MagSafe Ammo Company (P.O. Box 5692, 8530 Steilacoom Road, SE #115ASG, Olympia, WA 98503) offers a fine cartridge line-up for anyone seriously considering ammo for self defense, some of their claims to the contrary. You'll find everything from "Home" loads to "Full House" loads offered. Relative to pricing, .38 Special and .357 Mag ammo comes in seven-round packs, at \$16.95 each. Other loads come in six-round packs, same cost. 9mm loads come in 10-packs at \$24.95 each. Expensive, yes, but this stuff is custom loaded for self-defense use, not plinking. As they state, insurance is not cheap, but then neither is life. If you're interested, send a buck (\$1) and SASE for info. •



Here's the .45 pistol we used in testing .45 MagSafe loads. Penetration is slight, but cavity is great due to energy transfer.

Printed in FULL
COLOR on heavy stock

U.S. ARMY SNIPER TEAM WEAPON: XM-21

"ONE SHOT-ONE KILL" was the reputation gained by the U.S. Army snipers in Vietnam using an accurized M-14 with an ART scope. First round Kills at 800 yards were common. This excellent painting is the latest efforts by MAX CRACE, co-author of *Visions of Vietnam*. The first 250 prints are a **LIMITED EDITION**, 24"x17 1/2", signed and numbered on heavy stock, museum quality paper. Also available in open edition, on poster paper and suitable for framing.

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Terry Tussey:

Custom .45



The Springfield .45 as it looked after (below) and before (right) the Tussey gunsmithing work.



Gunsmithing to make your .45 or other handgun more accurate, functional and reliable . . .

By Jim Benson

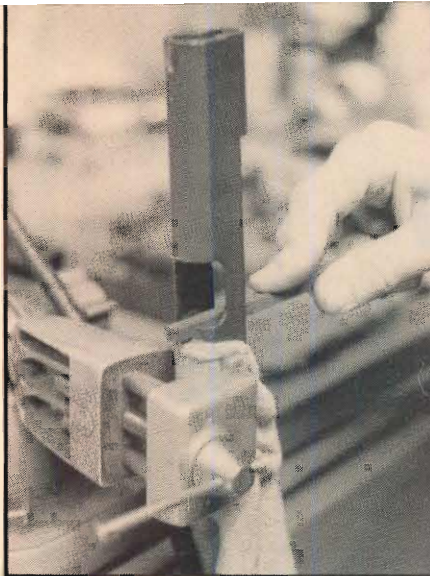
THE Government Model .45 auto pistol: known and respected the world over for its rugged reliability and stopping power. A classic handgun that for most of this century has been the standard sidearm of the U.S. armed forces and which has proven to be highly popular with civilians as well for competitive shooting and defense.

But while a military specification Government Model will shoot out of the box, the very specifications which make it rugged and reliable present some difficulties to the average shooter. These include relatively heavy trigger pull, minimally adequate sights and inability to function smoothly with different types of .45 ACP ammunition.

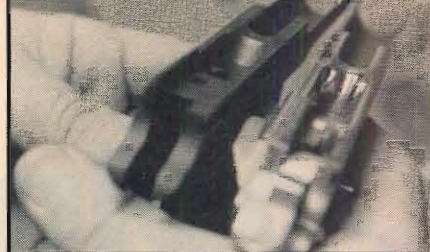
Two years ago I purchased one of the



The stripped Springfield at start of customizing.



Polishing of throat, ramp, extractor and bolt face and other parts was part of the job.



new Springfield Armory .45 Government Models made to military specifications. I've run hundreds of rounds of standard full metal jacketed ammunition through it without malfunction but have had difficulty shooting accurately with it due to the sights and 8½-pound trigger pull.

Recently I learned of the existence of Terry Tussey's customizing shop here in southern California and decided to have him customize my pistol.

"Thirty years ago, Terry Tussey began his career as a gunsmith specializing in handguns," according to Tussey's brochure. "Shooting in the 'old' Southwest Combat Pistol League with ol' timers like Jeff Cooper, Ray Chapman, Jack Weaver, and Jim Hogue, Terry gained a healthy respect for the Colt .45 Automatic. He learned through practical experience what modifications were necessary to make the best pistol in the world better. And through the years he perfected the skills and technique to do just that. Able to enhance a Colt's reliability without compromising its durability, Terry Tussey has gained a reputation that's unequaled. A Tussey Colt .45 is a work of functional beauty that speaks for itself." He also, of course, works on other brands of .45s and

other handguns.

Tussey and his assistant Don Kehoe offer the shooter a variety of customizing services ranging in price from \$25 to \$175. These include a standard "reliability package" which involves mirror polishing a .45's ramp, throat and extractor and bolt face; trigger work; installing numerous custom parts including Millet sights; checkering and hard chrome plating of frames. He also works on revolvers and Beretta and other auto pistols.

I opted for the reliability package plus installation of a Swenson Custom Fitted Extended Ambidextrous Combat Safety (since I'm a lefty), installation of Millet Low Profile, High Visibility Combat Sights and a trigger job that involved installing a match trigger and reducing trigger pull to 4 pounds. Total cost for this work is about \$170.

The accompanying photos show the work done on my Springfield .45 and how it looked before and after the customizing work. The whole job took only an hour or two.

When they finished and the gun was returned to me, I went to a shooting range where I and ASG staffer Allen Deever, a former armed security guard, tried it out.

Skipping the usual 7- to 25-yard handgun ranges, we decided to see if the accuracy of the gun would allow more difficult long-range shooting. Using a bench and gun rest, we shot at a target 100 yards distant.

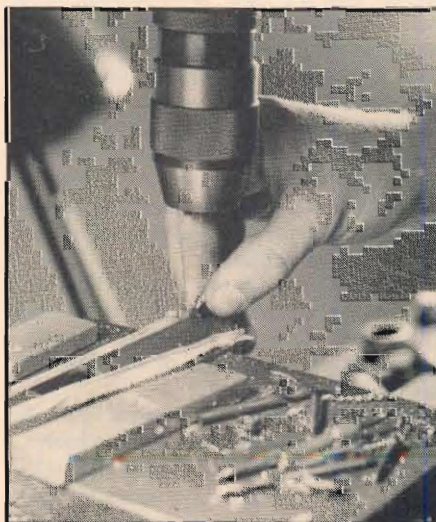
Shooting rather too quickly for good accuracy with FMJ ammo, I succeeded in making hits on the target several times. Taking time to aim and squeeze off his shots, Allen managed to make several hits on the target closer to the bulls-eye, including one that was only about 1/2 inch from dead center in the bulls-eye.

We fired only a few magazines full of ammo with the customized .45 (after doing other shooting that day) but left the range knowing I had a very straight shooting .45. No jams or other malfunctions were experienced during this shooting.

Tussey will work on guns shipped to him from anywhere. Usual waiting time for completion of gunsmithing work is two to three months due to the work backlog. For more information about the gunsmithing work available, prices and shipping information, contact: Tussey, Dept. ASG, 1035 N. Armando, Suite M, Anaheim, CA 92806; or call them at (714) 666-2344. ●



The Swenson ambidextrous safety installed.



Installation of the front Millet sight.



Another view of the finished product. A very accurate gun.

Natural, Manmade Disasters:

Coping With Mass Casualties

Rescuers often experience the same psychological problems as victims . . .

By Todd M. Stanford

AUGUST 1985: an L-1011 jumbo jet crashes while on final approach to Dallas/Fort Worth International Airport. One hundred-thirty-four people are killed.

November 1984: a liquified petroleum gas storage facility near Mexico City is destroyed by a fire and numerous explosions. Five hundred people are killed, over 4,000 injured.

July 1981: overhead concrete and steel walkways, laden with people, collapse onto a hotel lobby in Kansas City. One hundred fourteen people are killed, 200 people are injured.

August 1986: a disturbed postal employee opens fire on supervisors and fellow workers in Edmond, Oklahoma. Fourteen people are killed, six are wounded before the assailant kills himself.

If we add earthquakes, storms, floods and other natural disasters as well as the many other manmade disasters which have taken lives in wholesale quantities, we will have quite an impressive list. The point is, no matter where we are in the world, no matter how large or small our community is, the potential for a mass casualty incident exists.

Disasters are generally described in terms of time frame, utilizing five periods. The first period, the "pre-impact" period, is that period of time during which a high probability of disaster exists. The actual time involved may be hours, weeks, or even months. The Cuban Missile Crisis would have been considered the pre-impact period, had the USSR and the U.S. gone to war. Anyone who was grade school age or older during that time can well recall the air raid drills conducted at public schools and the discussions of how to store food and water. Another example of the pre-impact period is when a community living on the coast learns of the existence of a tropical storm out to sea, that may be on a course towards them. According to Colonel Albert Glass, M.D. (*JAMA*, 9-12-59), this stage is often characterized by the "It can't happen here" train of thought. Unfortunately, a characteristic of this period is



inactivity.

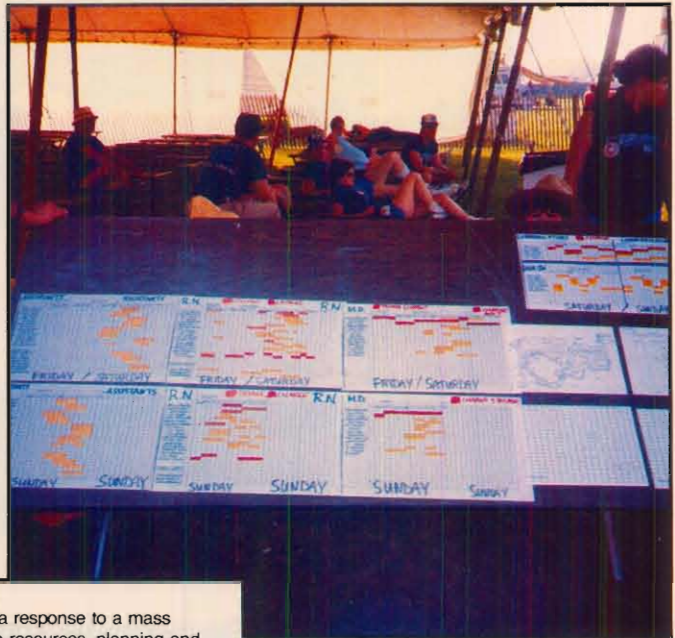
The second time period is the "warning" period. This is a time frame of minutes or hours in duration during which there exists an imminent threat of disaster. This would occur in the event of a declaration of war. In the example of the coastal town, this would be the period of time during which it is established that the tropical storm will reach land at that location. According to Col. Glass, this period is characterized by a frenzy of activity by those who are unprepared for such a disaster.

The third period is the "impact" period. This is the actual block of time during which the disaster occurs. Obviously, depending on the nature of the disaster, this time is quite variable.

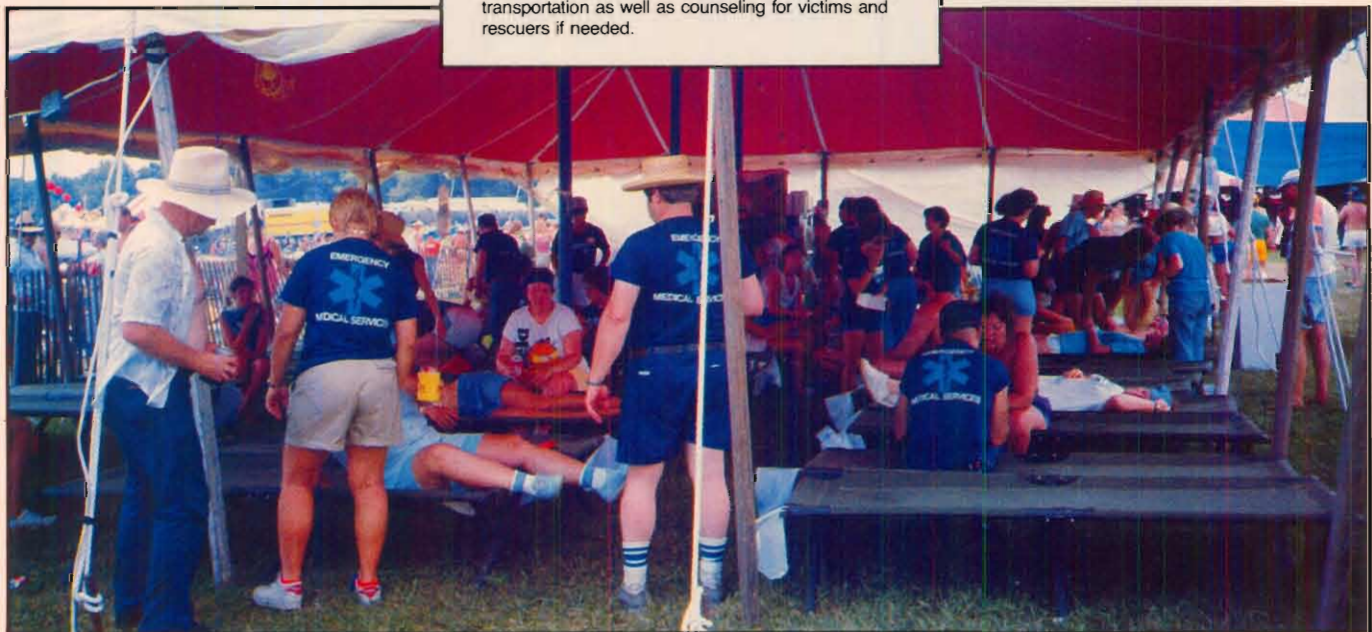
The fourth period is the "recoil" period. This period usually lasts only minutes. During this time most people will take stock of their surroundings, make a rapid damage assessment (as it applies to them) and initiate rescue operations.

The last period is the "post-impact" period. This period continues for months after a disaster. During this time, people involved in the disaster realize the extent of destruction and develop their own coping mechanisms.

Not surprisingly, rescuers experience the same psychological reactions, in the same percentages, as the survivors. In a study conducted by Major Patricia Sanner, and Colonel Barry Wolcott (*Annals of Emergency Medicine*, 7-27-83), it was learned that participants in five separate, large military mass casualty simulations reacted similarly to their civilian counterparts involved in actual disaster situations. Two of the simulations were a week in duration, three were 72 hours long. The length of time of the simulations no doubt added the "real time" effect and thus increased their realism. Based upon the results of their study, as well as research done by Thomas Durham, Susan McCammon, and E. Jackson Allison, Jr. (*Annals of Emergency*



Necessary components of a response to a mass casualty incident are ample resources, planning and transportation as well as counseling for victims and rescuers if needed.



Medicine, 9-17-85), on the effects on rescue workers at the scene of an apartment house explosion [12 injured, 1 killed] and a study done by Charles Wilkinson (*Am. Journal of Psychiatry* 7-83) on the effects on rescuers at the skywalk collapse mentioned earlier, reactions as well as coping mechanisms are very similar.

The similarities are not only qualitative, but, by percentage, quantitative as well. The majority of rescuers arrive at the scene during the survivor's recoil and post-impact periods. For the rescuers, however, reactions to the disaster begin enroute to the scene.

These reactions approximate those of victims during the warning period. Their initial reaction upon arrival is shock at the sight of carnage. More experienced rescue personnel will enter the recoil period almost immediately, providing support and guidance to those rescuers not so experienced.

As Captain Klaus Hartmann, and James Allison, pointed out in their study (*Military Medicine* 5-81), we are all members of the family of man, and as such, many will experience grief reactions similar to those of a personal loss.

These include physical and emotional numbing, pining, restlessness, crying, preoccupation with thoughts of death, guilt and anger.

Concern for their own safety was admitted by over half the rescuers. This, coupled with a feeling of inadequate resources, increased feelings of guilt. The phenomenon of survivor guilt was experienced. Simply stated, this is a feeling of guilt for having been spared death when many others have died.

Guilt is intensified in those rescuers acting as triage officers. Frustration and anger at the inability to "do more" is experienced as the incident progresses and resources are taxed by depletion of mater-

ials, fatigue, and the overwhelming number of injured. Even in simulations it was noted that the participants began bickering with each other and interpersonal communication deteriorated to the point of shouting or silence. This was seen as an early manifestation of "burn out." Rescuers reach a point where they begin to question the value of their every action. At this time, their confidence diminishes to the point where they question their ability to function in their assigned capacity.

It is essential that fellow rescuers recognize this change in attitude, and subsequent drop in efficiency, and assist the individual to return to normal function. In an incident involving many casualties it may seem counterproductive to send a rescuer back to a rest area, but that is the only effective way to maintain efficiency in the rescue effort.

(Continued on page 66)

U.S. Nuclear Triad:

Trident

The silent deterrent . . .

By Michael Pietrantonl



The USS Nevada, seen here during a shakedown cruise (General Dynamics Electric Boat Division).

The USS Florida, third of the Ohio-class missile submarines, underway during a shakedown cruise (U.S. Navy).



Crewmen at the helm aboard a nuclear-powered submarine (U.S. Navy).



A Trident missile is launched in a test from Cape Canaveral (U.S. Navy).



Four members of the USS Ohio's crew prepare to carry out a simulated Trident missile launch (U.S. Navy).

DETERRENCE—the system by which an adversary is discouraged or restrained from acting through fear or doubt.

For the past 40 years during what one admiral has called the “era of violent peace,” the United States and the Soviet Union have both sought to ensure their national security through nuclear deterrence. That deterrence has taken the shape of manned nuclear bombers, silo-based intercontinental ballistic missiles (ICBMs), and for the past 25 years or so, nuclear-powered strategic ballistic missile submarines, (SSBNs). These submarines, known as “boomers” in naval slang, have over the past decade been assuming an ever growing importance as the main deterrent forces of the U.S.

In the 25 years since the U.S. introduced the first nuclear missile carrying submarines, (the Polaris series), these weapons systems have become the most deadly of the three legs of the U.S. nuclear triad. Two factors account for the emergence of the SSBN as the main component of the triad. First, survivability. Once submerged a boomer is almost impossible to find. Second, destructive capacity. A single new Trident SSBN carries 24 Trident 1 missiles, each with eight 100-kiloton warheads. Each Trident boat carries with it more destructive power than was used by all combatants combined in World War II. The U.S. currently has eight of the \$1.5 billion Trident submarines on active service. Plans call for the construction of about 12 more by the year 2,000.

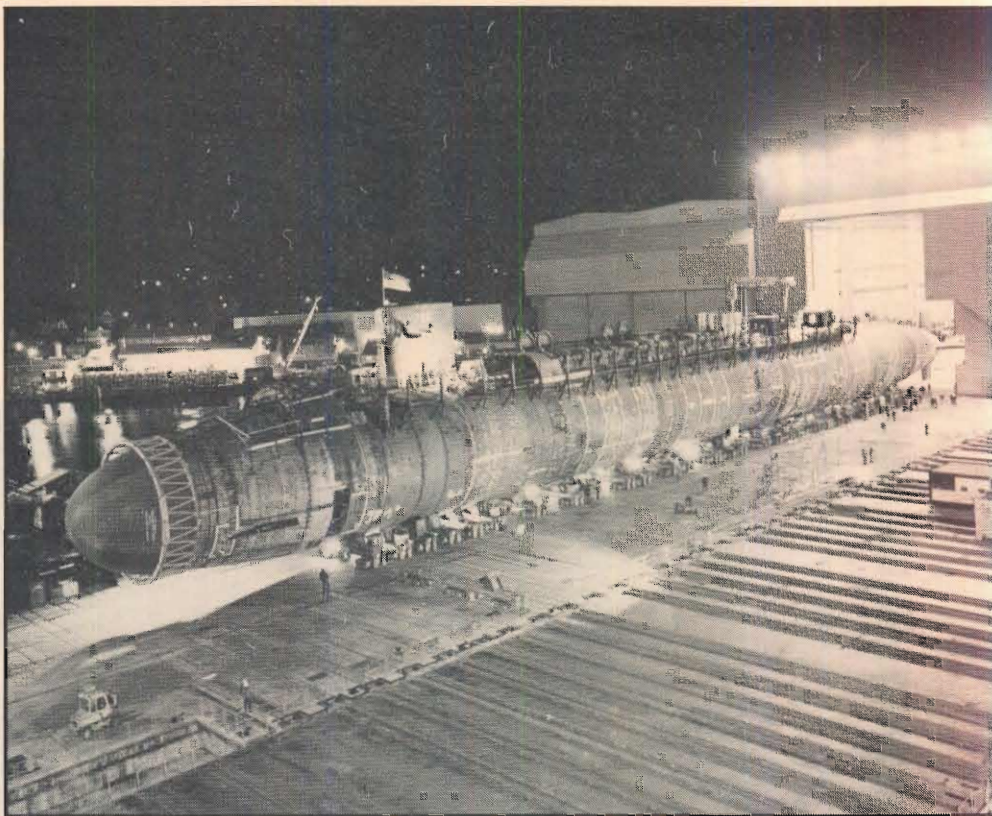
The Trident program, first conceived in 1969 as the Undersea Long-Range Missile System, ULMS, came about as the result of a number of strategic concerns cited by the U.S. Navy.

For a number of years the Navy had noted the increasing effectiveness of Soviet anti-submarine warfare, ASW, capabilities. The Soviets had long understood the threat posed by the U.S. SSBN fleet and had undertaken a massive effort to build systems to counter that threat. These systems included sensor arrays implanted in the ocean floor, ASW aircraft, helicopters, and ships, and an ever growing number of new attack submarines.

Making the Soviet's job somewhat easier were the Polaris and Poseidon missiles carried onboard U.S. SSBNs at the time. These missiles had effective ranges of approximately 2,500 miles. This gave the submarines that carried them about 3 million square miles of ocean in range of Soviet targets, in which to hide. With the growing efficiency of Soviet ASW techniques this was simply not enough sea room for U.S. SSBNs to feel secure.

Also of concern to the Navy at the time was the age of the U.S. SSBN fleet. The 41 Polaris and Poseidon SSBNs then deployed by the U.S. would, by the mid 1980s and early 1990s, all be approaching the end of their useful service lives.

These factors plus new technological



USS Ohio, first of the Ohio Class Trident submarines, under construction at General Dynamics boatyard in Groton, Connecticut (General Dynamics Electric Boat Division).

advances that would increase missile range, accuracy, and submarine performance, convinced the Navy to go ahead with the ULMS.

In 1972 the ULMS program was designated the Trident system and preliminary design work was started. Plans for the new Trident system called for the construction of the largest submarine ever built by the U.S. Size was necessary to accommodate an increased missile load of 24 of the new Trident missiles.

Work on the design of the new missiles was going on at the same time as that of the Trident submarine itself. It was decided early on that the Trident missiles themselves were to be of two separate designs. The Trident 1, also known as the C-4, was designed to be used on both the new Trident submarines and the older Poseidon subs. This new missile would almost double the effective range of U.S. SSBNs, to about 4,000 miles. By doubling the missile range U.S. subs would have almost 10 times the ocean area, almost 30 million square miles, from which to launch an attack. The Trident 2 missile, D5, was to increase this range even further and with greater accuracy. Trident 2 was planned to come into the U.S. inventory in 1989 and would be retrofitted to Trident subs built before then.

The Trident subs themselves were to be designed for maximum “survivability.” For submarines survivability means silence. New noise-dampening technologies were to be incorporated throughout the Trident subs. State-of-the-art sonar, electronics, and communications equipment

was specifically designed for the new Trident system.

After two years of design work the Electric Boat Division of General Dynamics was awarded the contract to build the first Trident submarine.

The System—Construction of the first Trident boat, the USS Ohio (SSBN 726), began in 1976. Plans called for the boat to reach initial operating capability, IOC, in 1978, coinciding with the IOC of the Trident 1 missile. Both programs however were hit by technical delays, inflation, and labor problems. By the time the USS Ohio was commissioned in late 1981, the program was more than two years behind schedule. The cost of the system had jumped from the estimated \$300 to \$500 million per boat in 1974 to \$1.5 billion per boat by the time Ohio was commissioned. Since overcoming the initial startup problems the program has been on schedule and delivering new boats at the planned rate of about one per year.

Just what do you get in a \$1.5 billion submarine? The most sophisticated weapons system in the world that can, according to a Trident captain, “become a black hole in the ocean.”

Further, when the new Trident 2 D5 missile is deployed, the U.S. for the first time will have a submarine-based “hard target” kill capability. That capacity will give the U.S. SSBN fleet the ability to destroy missile silos, command and control centers, and other “hardened” targets in the Soviet Union. As we will see later,

(Continued on page 67)

Long-Term Survival:

Home Gardening

How do you or your group plan to eat during uncertain times? . . .

PHOTOS BY NANCY QUINTON



A pressure cooker, canning jars and lids are needed to process your garden goodies.

By Corcceigh Grian

IN the years between a national disaster, such as economic collapse, civil unrest, or nuclear war, and the restoration of the American way of life, many survival skills will be needed. Not the least among these will be obtaining food.

How do you, or your group plan to eat during these uncertain times? By storing food now? By living off the land? What if it's 10 or 12 years before commercial farms begin producing food the way they do today? Not only would storing 10 years of food be difficult, it would also be very expensive. Most people cannot afford \$1,000 or more for one year's supply!

Have you really thought about living off the land, or read about the primitive people who have? If you do, maybe you will get an idea of how much wild food you can find during winter, or a drought.

Hunting may provide meat for a while, but what about the fruits and vegetables you need for good nutrition? That's why primitive hunters and gatherers had such a short life expectancy. Don't get me wrong!

Those skills are and will be very important. I, for one do not want to be without them. But those skills may not be enough.

If those skills are not enough, just what do we do about gathering food? What about gardening?

You knew I was going to say that all along, didn't you? Because any survivalist serious about long-term survival has already considered gardening. As a matter of fact you probably already have a garden in your back yard. What if you don't? Start one. Of all the equipment and paraphernalia you will need to survive, a garden is among the least expensive.

If you are just starting your first garden, start small. Larger gardens are more work, more time consuming, and are more apt to discourage you at your first try. You can grow a larger garden next year. Keep growing them larger year by year until you can grow enough to supply yourself with a year of your favorite foods.

Start your first garden by marking out a plot roughly 33 feet by 33 feet. You can

square that out or make one end longer than the other. Whatever it takes to fit the plot to your own property. Though anything larger may be too much for your first time.

Now break up the soil using a rototiller. If you do not own a rototiller you can rent one, or pay someone who owns one to go over the plot for you. Till the soil as finely as possible. Next spread enough fertilizer over the plot to make due for your garden's needs. A soil testing kit will help with this.

Do not use chemical fertilizers, as you would sooner or later be without them in a survival situation. Growing your garden organically now will condition you for when it must absolutely be done this way. As for an organic fertilizer, steer or horse manure works best. Also use rotting plant matter, egg shells, bones, fish, and wood ashes. Mix in the fertilizer, rake smooth, and you are ready to plant.

Vegetable seeds are very reasonably priced. Most are under \$1 a packet. I have come across sales where I have purchased



A tomato seedling. Tomato seeds must be started indoors and transplanted outside when danger of frost is past.



For storing seeds for long periods of time use any clean dry jar, a zip lock bag and freeze-dried coffee.

10 packets for \$1. That's why gardening is so inexpensive. It also saves on your grocery bill. Some seed brands are better bargains than others, so look them over. One brand packet may cost 89¢, and contain 3 grams of seeds. Another brand may cost the same, and contain only 2 grams.

Buy the types of vegetable seeds you like to eat. This will make survival gardening more appealing. Also buy the types of varieties that make gardening easier. Choose bush beans over pole beans so you won't have to stake up the vines. Buy hybrid bush pumpkins to save room for other crops. Those are just examples. Look around in seed catalogs. They have many different varieties.

Storing Seeds—But what good is this going to do us when we can't buy seeds anymore? Storing seeds is much less expensive than storing food. Simply place your favorite seed varieties in a jar. Next fill a small zip lock bag with freeze-dried coffee, then punch about a dozen tiny holes through it with a straight pin. Place the freeze-dried coffee in the jar with the seeds. Screw the lid on tight, and store in a refrigerator or cool, dry place.

The freeze-dried coffee is an excellent desiccant, and will keep moisture off your seeds. Stored this way your seeds should last for years. Probably decades! Store enough seeds for a very large garden for 10

to 20 years. Also learn to save seeds from garden and wild plants.

Instructions for planting the seeds are printed right on the back of their packets. For planting straight rows use two stakes and some twine.

Tie enough twine between the two stakes to place one stake on one end of the plot, while placing the other stake at the other end. Just follow the twine while planting, and you will have a straight line. Planting from east to west is best. Grow the smaller plants at the southern end of your garden, and taller plants at the northern end. That way all your plants will get enough sunlight. Keep the seeds moist until seedlings are strong, then water when needed.

Some garden plants like the tomato, or pepper must be started early indoors, or in a greenhouse. Again the instructions for planting these seeds are on the backs of their packets. One thing I would add to the instructions is use a grow bulb. If you don't have a grow bulb, place the seedlings in a place where they will get plenty of light. Starting these plants yourself is preferable to buying them. What will you do when you can no longer buy them?

That's the easy part. Now about weed and pest control. Again, stay away from the chemicals. There may come a time when they are no longer available. For weed control I'm afraid you're in for some work. You'll have to hoe between the rows, and pull the weeds by hand from around

the plants. If you have planted the rows far enough apart, you can use a rototiller instead of a hoe.

Insects are your worst enemy, if you can't control them, you may have to eat them. Fortunately, there are a couple of things you can do, besides crop dusting. In some catalogs you will see "good" insects you can buy, such as the praying mantis, and lady bug which eat "bad" insects. Releasing these insects into your garden will help keep harmful insects out.

Some plants like the marigold, or garlic repel insects. Planting them around the edge of your garden will help keep crawling insects out. Or steeping large quantities of these plants in water, then spraying your garden will repel pests. Then there is tobacco. The nicotine content of this plant will kill garden pests. One seed company (Redwood City Seed Company) actually sells a variety of tobacco specifically for pest control. Simply soak the dried leaves in warm water, and spray on the infested areas. It will kill pests on contact. In my opinion tobacco is better than chemical pesticides.

As for those furry little pests, there's nothing a .22 rifle won't take care of.

That is what you must do for your long-term survival food source. Starting small and getting larger year by year will condition you for all your food needs in the uncertain future. Good luck, and happy digging. ●

Disease Prevention, Protection:

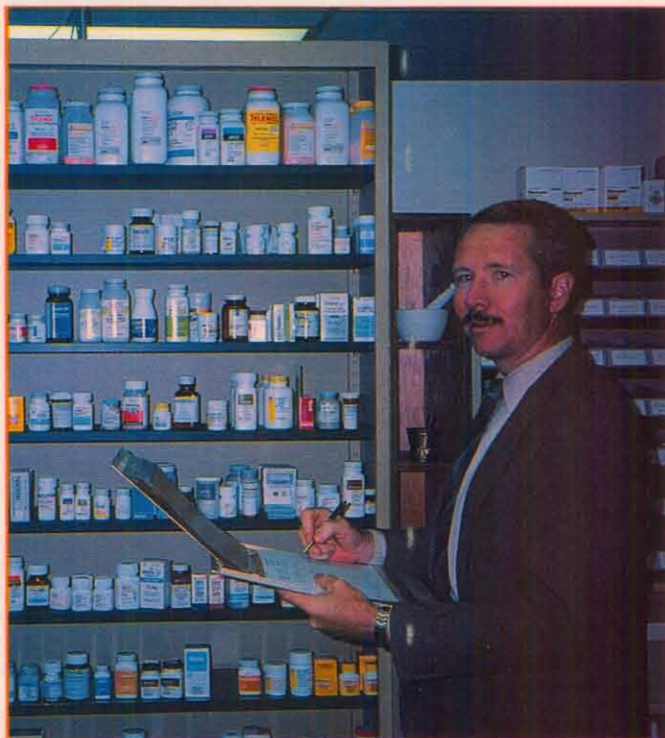
Anti-Infective Vitamin

Correction of even mild vitamin A deficiencies results in dramatic reductions in deaths from respiratory infections and diarrheas . . .

By Thomas Hickey, M.D.



Foods rich in vitamin A are effective in building up resistance to infection.



Antibiotics and physicians such as the author will be scarce after a nuclear war.

FOR the immediate survivors of a massive nuclear bombing, disease will be a major threat to their continuing existence. Water for drinking and for hygiene will be scarce and often contaminated by bacteria, amebas, etc. Persons with varying degrees of radiation exposure will at least temporarily suffer reduced numbers of white blood cells available for fighting off infection. Severe stress and poor diet will further lower resistance. The enemy may also deliberately release deadly germs into our environment.

The resources available to deal with increased disease rates would themselves be among the first casualties. In a full-scale nuclear attack against my home state, 95 percent of doctors, nurses and paramedical personnel would be killed or injured. Most hospitals would be destroyed. The majority of antibiotics and other medications are located either in hospital pharmacies or in drugstores in the towns where the physicians write

prescriptions.

Thus, both most stocks of medications and the doctors and hospitals that distribute them are concentrated in close proximity to urban nuclear targets. The few surviving doctors and medicines will be reserved for those who would probably die without them, yet have a good chance of survival with them. A life-threatening but treatable infection in a key member of the community might be treated with some of the precious remaining antibiotics. A child's ear infection might not, even if that meant weeks of suffering and possible later deafness. Medical conditions that in peacetime might have been fixed by a routine visit to the doctor might have to be suffered in silence.

It may be many years before a pharmaceutical industry is rebuilt enough to even begin to replenish stocks of the most critically needed medications. Hence, avoiding illness will be more important than ever. "An ounce of prevention is worth a pound

of cure." Keep your family's vaccinations up to date now, while they are cheap and available. Proper nutrition is another key aspect of health maintenance. Good nutrition does not necessarily mean eating a lot. Both now and in the face of major disruption of food production and distribution, *what* you eat is as important as *how much* you eat. In fact, recent medical studies have shown that the equivalent of a carrot a day can cut nearly in half the risk of death from common infections!

Anti-Infective Vitamin—Among the many vitamins that your body requires every day, vitamin A is well known in preventing night blindness, keeping the skin healthy and producing normal sperm. Less well known is another important property. In the 1920s, links between certain infections and insufficient intake of vitamin A led to excited speculation that the vitamin could prevent infections. The idea later fell into disrepute. However, in the last few

years, little known but reputable large-scale studies have been done among Third World children. The malnutrition and primitive medical care experienced by these children is relevant to what might await us in a dark tomorrow. These studies have shown that correction of even mild vitamin A deficiency results in a dramatic reduction in deaths from respiratory infections and diarrheas (A simple diarrhea can kill an undernourished child in a week, as I witnessed overseas).

A 1983 study in Java established that children deficient in vitamin A were more likely to die from these illnesses. A later study of nearly 26,000 children in Sumatra showed a 49 percent lower death rate in the ones given vitamin A supplements to prevent nutritional blindness. In other words, giving these children enough vitamin A meant that only half as many of them died as in the group that wasn't getting enough of the vitamin. A 1986 study of 450 Indonesian children with mild vitamin A deficiency showed a 34 percent reduction in mortality in the group given two large vitamin A doses, six months apart.

Vitamin A deficiency is not limited to exotic faraway places. A national nutrition survey in recent memory showed that about one-third of pre-school children and about 10 percent of adults from American low-income families also suffer from this shortage.

Vitamin A is now believed to possess "anti-infective" properties. It helps prevent infections. It cannot cure an infection already in progress, as an antibiotic would. Vitamin A maintains a healthy "mucosa," which is the moist membrane that lines the eyes and the body's tube-shaped cavities. Mucosa lines the breathing passages and the gastrointestinal tract, through which food passes from the mouth all the way to the rectum. A healthy mucosa is a barrier against bacterial invasion of the body in these areas. Vitamin A also seems to help white blood cells fight infection.

Sources, Requirements—Vitamin A is found in many common foods, or may be purchased in capsules. As a general rule, it is cheaper and more convenient to obtain vitamins by eating the right foods than by buying pills. Some experts also believe that the vitamins put into foods by Mother Nature are of better quality than the factory-produced variety. As a general rule, the Recommended Dietary Allowance, which the average grown male should consume each day, is 5,000 International Units. This is the amount found in one medium carrot or one typical vitamin A capsule. Women need a little less than this amount per day unless they are breastfeeding, in which case they require a little more than men. Small children should have only half of the adult portion, older children about three quarters.

Most fresh vegetables that are either deep yellow or dark green when ripe are

30 BEST FOOD SOURCES OF VITAMIN A

This table shows how large a portion of each food is required in order to obtain the Recommended Dietary Allowance (RDA) for all males 11 years old or older.

YELLOW FRUITS AND VEGETABLES

Apricots, dried	1/3 cup	Dandelion greens	1/4 cup
Apricots, canned	1 cup	Kale	2/3 cup
Cantaloupe	1/3 cup	Mustard greens	2/3 cup
Carrots, raw	One carrot	Spinach (either canned or	
Carrots, canned	1 1/2 ounces	cooked fresh	1/3 cup
Papaya	1 1/2 cups	Turnip greens	1/2 cup

Peaches, fresh	Four peaches
Peaches, dried	3/4 cup
Pumpkin, fresh	1/3 cup
Pumpkin pie	1 1/2 slices
Winter squash	2/3 cup
Sweet potatoes, (yams)	1/2 of one
Sweet potatoes, canned	1/3 cup

LEAFY GREEN VEGETABLES

Beet greens	2/3 cup
Broccoli, fresh	1 large stalk
Broccoli, frozen chopped	1 cup
Collards	1/2 cup

OTHER FOODS

Liver	1/3 ounce
Tomatoes, fresh	Three
Watermelon	2 slices
Hot red peppers, ground	
(i.e., chili powder)	1/2 teaspoon
*Vegetable beef soup	2 cups
*Vegetarian soup	2 cups
*Minestrone soup	2 cups
May be canned soups mixed with an equal	
amount of water.	

(Milk, cream, ice cream, parsley and egg yolks contain modest amounts of vitamin A but are not on the list, since a normal serving of these will only supply about one-tenth of the usual adult RDA.)

good sources. One can of sweet potatoes (yams) on the shelf for less than nine months, would supply enough vitamin A for three people for one day, or one person for three days. Even a quarter of a cup of dandelion leaves is all you need in a day. Cooking does not significantly reduce the amount of vitamin A in food, though wilting or drying out does. For more information, see the accompanying table.

An advantage of vitamin A is that it is one of the "fat-soluble" vitamins. Any extra fat-soluble vitamins you eat which your body doesn't need that day are stored away in the liver "for a rainy day." A healthy American adult probably carries around close to a year's supply in his liver right now. In fact, beef liver is the best food source of vitamin A. One two-ounce slice gives you a weeks' supply!) It is this liver storage of vitamin A that allows the researchers in Java and Sumatra to protect undernourished children against infection for six months at a time with a single large dose.

Overdose—The flip side of liver storage is that if you take in too much, you can't get rid of it, and it can actually poison you. "Hypervitaminosis A" is a well-documented condition in which the skin becomes flaky and sometimes turns the color of a carrot.

Pregnant women who took several times their recommended dietary allowance for

months at a time have given birth to children with defective ears, mouths, hearts or brains. The danger is greatest during the first weeks of pregnancy, when unfortunately the woman is least likely to be aware that she is pregnant. A woman of child-bearing age, consuming vitamin A capsules even though her diet may already contain adequate amounts, is taking a big chance. Children who are given several times their recommended dietary allowance every day for two months or more may suffer skin problems and their internal organs may not develop properly.

Thus, the trick is to get enough, but not too much. A sensible diet is the best route. Find a local source of some vitamin A-rich vegetable that you like. If you can, grow it in your own backyard. Perhaps you can't bring yourself to eat enough vitamin A-rich food every day. In that case, once or twice a week have yourself, a vegetable-stuffed stew or a nice slice of fried liver.

Save stored vitamin capsules for some desperate time in the future when months may pass before you can obtain fresh or recently canned vegetables. Try to avoid the habit of buying and consuming vitamin pills. After a social collapse, as supplies dwindle, the price will go up, making you a steadily more miserable benefactor of the local "pusher." When he runs out, will you resign yourself to debilitating bouts of diarrhea, bronchitis or pneumonia? Or will you be an independent survivor? ●

Tune In The World

(Continued from page 45)



Amateur Radio operators talk to other Hams all over the world.

the hard way), and explanations that actually explain. Too many guide books or texts either gloss over important points, or go off into endless, confusing details that don't mean anything to you unless you already understand what they're talking about.

I also like his guide to what to do when you get on the air for the first time (it has broken my heart to see a newly licensed Ham drop out, and never get on because their "buck fever" and fear of talking in Morse to actual people in far away places terrorizes them), and an excellent chapter on how to handle some of the real life problems that come up (yes, "Murphy's Law" afflicts Hams too).

Cassette—The audio cassette that makes up the rest of the *TUNE IN THE WORLD* package has remained essentially unchanged over the years. It is introduced by radio personality and author Jean Shepherd and will teach you the basics of Morse code. It covers the alphabet, numbers, and the punctuations you'll need for the test and on the air. It uses a modified Fahrnsworth technique of instruction, that is code characters sent at relatively high speed

with long pauses between to foster learning Morse as letter sounds rather than cumbersome counted dots and dashes.

My main criticism of their tape has remained the same: the characters are too slow to take full advantage of Fahrnsworth. They are sent at about 13 words per minute (WPM) and it is my opinion that they should be sent at around 20 WPM, and certainly not slower than 15 WPM. I'd also like it to have more practice. Even with its faults, the cassette tape in this package *is* sufficient to learn the code.

I had an interesting talk with Larry Wolfgang. Apparently he and his team are aware of the limitations of their tape and are currently concluding arrangements for the production of a new cassette program based on a computer designed and generated Morse learning program . . . including a faster Fahrnsworth system.

It should be part of the *TITW* package by the time this review is published. It will be part of their sixth edition. The fifth edition, now available, has the same great book, but the old tape. I like the improvements planned, but if all you can get is the fifth edition, go to it . . . like I said, the old tape is sufficient. The *TITW* book is also

available as part of a computer software/textbook package offered by the AEA company. The computer code instruction software may be what you are looking for anyway, and AEA is famous for good Morse simulation software (ain't cheap, though). It is also available at Ham equipment dealers.

TUNE IN THE WORLD is the best buy in Ham radio today. It, and a code key and practice oscillator or buzzer are *all* you need to get started. You will want to invest in other radio books later, but to start off, save your money for equipment, this is all you'll need. If you are unsure as to whether Hamming is for you or your group, I strongly advise you to spring for the ten bucks . . . you'll be sure after you review the book. What is most important is that *TUNE IN THE WORLD* is your key to opening the world of Amateur Radio, and Amateur Radio provides an unparalleled source of training, emergency communications, and intelligence.

TUNE IN THE WORLD With Ham Radio is available from any Amateur Radio equipment dealer, or direct from The American Radio Relay League, 225 Main Street, Newington, CT 06111. ●

Survival In Our Own Backyard

(Continued from page 20)



Holly leaves. The leaves of this familiar Christmas wreath, when dried and roasted, can be brewed into a tea with fragrance and taste that reminds one of baked yams. The bright red berries, however, are a powerful emetic and should not be ingested.

sow thistle is known more often by its Polynesian name of puwha, and is so popular there it is raised extensively among the native Maori inhabitants who consume it in great quantities; its flavor being especially favored with pork.

Myself, I have used it in creamed greens on toast, as well as in rich casseroles with sour cream, onions, and cheese. The flavor and texture of cooked sow thistle greens is quite mild if harvested before the yellow dandelion-type blossoms are in bloom, being even softer in texture than lambs-quarter. After it blooms, the plant develops a bitter sap that's poor in flavor but rich in latex. This sap, if combined with rendered animal fat, makes an excellent survival conditioner for leather boots, rendering weathered leather more pliable and waterproof.

Having mentioned the occurrence of common sow thistle in New Zealand I should add here that unfortunately many people forestall pursuing the study of wild edible weeds simply because they believe their "home town" weeds are a localized phenomenon. This is hardly the case. A handbook of common weeds of the western states looks almost identical to a handbook of common weeds of the eastern states. In fact, a good majority of these weeds are not even native but immigrants from Europe that have since spread, like the Europeans themselves, all over the world.

Lucky Find—Another common weed of nearly every lawn is clover (*Trifolium* species) and our lawn is certainly no exception. These sprawling three-leaved harbingers of fortune bring luck to the forager in the nutritious leaves they freely offer. In this respect, gathering the three-leaved kind can be every bit as fortuitous as gathering the fabled four-leaf variety.

Proof that survival is not dependent upon pure luck.

An even more delectable herb grows here, though unfortunately not in great abundance. In sunnier, less crowded locations (especially where the dirt is showing through) purslane (*Portulaca oleracea*) seems to do best. The purslane's claim to fame is as the second highest vegetable source of iron in the world (only parsley rates higher), but parsley never tasted so good.

To anyone who loves the sweet mucilaginous taste and quality of okra, purslane makes a perfect addition to a meal. Fried,



Lambsquarter is a common weed of cultivated ground, and a tasty relative of spinach.

boiled, baked, or sauteed in a Chinese stir fry, it's hard to go wrong with purslane leaves and stems. Even when the plant gets older the stems though crunchy, still retain their sweetness and make an excellent pickle. Gather, clean and chop 1½ cups of stems into bite-sized pieces. Prepare a pickling solution by mixing together: ½ cup white vinegar, ¾ cup cold water, one heaping tablespoon uniodized salt, ½ tablespoon dillweed, ½ clove garlic, ¼ teaspoon crushed red chilis, and pour this all over the purslane stems and seal in a pint jar. (Be sure that you use a non-metal lid for this canning, as the vinegar will eat at the metal, giving the entire solution a metallic taste.) In three weeks you'll have as good a pickle as any you could buy in the store.

Purslane is another fellow traveler, that seemed to follow wherever I went. This weed and I greatly enjoyed each other's company in the Cook Islands, and from New Zealand to northern Australia. In Fiji, it's known by the Indian name of "Baji," and formed the main ingredient of many wonderful stir-fries and curries for me.

Wild Spaghetti—Alas, today, I find these excellent greens growing in just enough quantity to make one scanty meal, but in the shade of the building a thicket of day-flowers (*Commelina* species) flourished in such an abundance as to sustain the entire magazine staff for two weeks! Although dayflowers will probably never be considered the Cadillac of weeds, where they do take root they are as abundant as Volkswagens. The somewhat tougher leaves, when stripped from the stems, can be made "tender enough" by boiling for about forty minutes, and even the long stringy stems can be made into an interesting treat. Although they won't cook up soft like most greens, this is a characteristic that can be used to advantage. These stems (or runners) grow to a length of several feet and make a perfect vegetable spaghetti. Boil until tender (one to two hours) and cover with your favorite spaghetti sauce for something gastronomically unique.

We now go from the wild to the tame. When taking stock of your backyard's assets, don't neglect those beautiful ornamentals that grace all the borders and liven up patios and planters. We certainly didn't.

Carob trees, junipers, figs and yew pines also surround our offices, and are all plants bearing edible fruits (although the yew pine fruit surrounds a highly poisonous seed).

Juniper berries are used to impart that special flavoring to gin (a popular survival drink in England). The chartreuse-blue berries, looking somewhat like a spiky knight's mace, are most often used in cooking to enhance the flavor of wild game or beef. The pungent resinous essence can replace bay in any recipe that calls for this fragrant herb. Alas, at this time of year, they also are barren.

The Washington fan palms (*Washingtonia filifera*), on the other hand, are loaded with fruit just begging to be used.

Those fruits, looking like giant clusters of round black grapes when ripe, are close relatives of the date palm. If gathering fruit in the wild, just pick and wash fruit, then simmer in just enough water to cover (plus one extra cup). When the thick layer of fruit surrounding the hard seeds is soft and begins to fall off, cook another 10 minutes then strain through a single thickness of cheesecloth. Continued boiling of this sweet extract will produce a date-flavored syrup, rich in flavor and carbohydrates.

If gathering fruit from a palm growing near a street or a parking lot, it's wise to first wash and peel the fruit before cooking, discarding the unwanted skins completely, due to possible contamination of lead from automobile exhaust.

The heart of this palm, like many palms, can furnish one with a sweet, starchy staple (excellent in salads) that is rich in both vitamins and carbohydrates; but alas, at a high price. To partake of this tasty vegetable—from which the photosynthesizing leaves spring—means a palm has to die. For this reason I consider it useful only under true survival situations. However, if you or a neighbor are doing some major yard renovations, and the palm has to go, why waste it?

To top off our "free lunch" what could be better than a freshly brewed cup of tea, made from the leaves of holly (*Ilex* species)? To prepare holly leaves for tea, first dry in a warm, dry shady place (an attic works perfect) till the leaves are brown and crisp, or if you're in a hurry (like I usually am) they can be dried to a crisp in only a few minutes in a microwave oven.

Next, place them in a medium-hot oven and bake until they turn a rich coffee brown. Crumble the leaves and brew as you would ordinary tea, using approximately three level tablespoons of holly for every pint of water. What does it taste like? Euell Gibbons describes the flavor and aroma as being like, "... a field of newly mown hay in the bright sunshine on an August afternoon." I can't improve on that description.

It seems our 10 minutes is up and we're now where we started, in front of our office door. We feel confident we've proved what we set out to prove, that the forager's first rule is still as valid in a city as it is in the wilderness. Perhaps you don't know the forager's first rule, in that case I'll enlighten you. Put simply, it goes like this: *Anyplace* is a likely place to find food.

With holly leaves in hand, I look forward to that "August sunshine" tea, and smile at the sudden thought that while we set out to prove one saying right, we proved another wrong. Whoever said, "There's no such thing as a free lunch," must have had his eyes closed when he walked around his own backyard. ●

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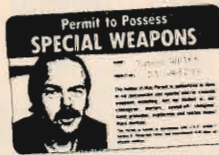
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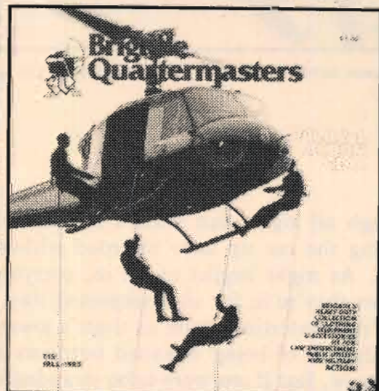
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Shovel-Ups: The Instant Igloos

Building a shovel-up is as easy as one-two-three-four . . .



A shovel-up in the beginning stages. To construct this igloo requires remembering only four simple steps: pile up, cover up, dig up and smooth up.

By Allen Deever

IT'S been a beautiful winter day's drive in the white-flocked woods, taking the family on the seldom traveled back roads deep into the national forest. Suddenly a deer steps out and you swerve to avoid it, the sudden momentum of the turn causing the car to slide out of control on the icy pavement and slip over the embankment where it quickly comes to rest against a tall pine tree.

Everyone in the vehicle is shaken,

though all right, but there's no hope of getting the car up onto the road without help. As night begins to set in, everyone knows they're in for an unexpected stay.

With wintertime upon us there's always the danger of being stranded outdoors in the snow. But if one were to be stranded in bitterly cold weather, he couldn't ask for anything better to be stranded in than snow.

Ice, of which snow is composed of, is one of nature's finest insulating materials, a characteristic that's hardly taken for granted by nature or farmers. Fir tree boughs, for instance, bend upwards to

catch a maximum amount of snow, thereby insulating themselves from the extremes of the winter. Citrus farmers in California are also well aware of the advantages of ice. When temperatures are plummeting rapidly or an extreme wind chill factor threatens to ruin a whole crop, the modern orchard owner turns on a network of sprinklers that coat the vulnerable leaves and fruit in a fine mist of water which quickly freezes to ice. This icy coat keeps the crop from reaching temperatures below 32 degrees F.

It was no accident that the ingenious Eskimos decided on ice for their shelters or

igloos. Though the temperature outside be low enough to freeze a man in his tracks in 10 minutes, inside these snow-houses the people remain warm, dry and comfortable.

The arctic explorer and writer Stefansson, an enthusiastic proponent of using igloos in expeditions, recorded some interesting data on the efficiency of igloos. Using a thermometer he discovered that while the temperature was an inhospitable 50 degrees below 0 degrees F. outside, the *torsho* or entranceway to the igloo was found to be 10 degrees warmer, the temperature at the *katak* or doorway was 0 degrees F., the floor level brought the mercury to 20 degrees F., while at shoulder height the fahrenheit reached a livable 40 degrees and a toasty 60 near the ceiling; a spread of fully 110 degrees!

The structural design of an igloo is truly Space Age, the circular shape effectively equalizing stress evenly throughout all the blocks; the globular surface offering very little wind resistance, making it able to withstand the buffeting of gale force winds; and if stealth is important, no other structure blends so harmoniously with the environment; truly nature's best camouflaged domicile.

When compared with an igloo, the attraction of tents pales in comparison. An igloo is far roomier, the nature of an igloo precludes having to carry it, no flapping rainflys make it much more quiet to sleep in, it's far sturdier and warmer, and the price is definitely right! These are a few of the igloo's advantages, but one major drawback remains for the stranded survivor contemplating building an Eskimo snowhouse for his own temporary emergency dwelling.

Anyone who has struggled over building an igloo, tramping down snow, cutting ice blocks, carrying and shaping and stacking the blocks will tell you, "There's gotta be an easier way!" Well, fortunately for the backcountry trumper there is, it's called the "shovel-up." A shovel-up is basically an "instant" igloo, a temporary snow dwelling that retains most of the major advantages of a traditional igloo (including the aesthetics), besides adding a few advantages of its own.

A shovel-up that houses twice as many people as a traditional igloo can be built in half the time. The design and shape of the shovel-up is identical to that of an igloo, (therefore none of the strength and wind resistant advantages are lost), and differs only in its method of construction. As it's not built of blocks, there are no drafty chinks to fill in between cracks, and little chance of roof cave-ins from improper fittings. Fewer tools are needed to construct a shovel-up, a shovel and a large plastic tarp being all that are necessary, though snowshoes and an ice axe are certainly handy.

Building It—Constructing a shovel-up is as easy as one-two-three-four. Pictured here is the beginning stages of a shovel-up

that slept six travelers comfortably (including all gear), was large enough to stand straight up in, and took less than two hours to build. And, I might add, that none of us had ever built a shovel-up before.

Prior to construction the site is selected. Level is best, out of the path of gullies and other potentially hazardous avalanche areas, and where the snow is at least three feet deep, although one of the beauties of the shovel-up is that it can be built in any depth of snow sufficient to scoop a shovel into. Any less than three feet, however, and the igloo will need to be built on a raised platform of snow.

Once the site has been selected it's time to put on snowshoes (if you have them), and tromp down the foundation of what will later become the floor of the igloo. (From henceforth in this article I'll be using the words "shovel-up" and "igloo" interchangeably.) If *taglus* or snowshoes are unavailable, just use your boots or the back of the shovel. You're now ready for step number one.

1) The first step in the construction of our "instant" igloo is to remove all bulky items from packs to increase surface area, i.e., air mattresses should be inflated, backpacks stood upright, insulating pads and sleeping bags removed from the frames of the packs, also standing upright. The idea is to make as large a pile as possible with all the available gear. If stranded without much gear, pine boughs can be used equally effectively.

2) After everyone's gear is heaped into one pile, all is covered with one large waterproof tarp, or several tarps if necessary, and the shovel-up process begins (hence the name). With snow shovels in hand, the group begins to bury the gear with snow, heaping it on evenly and tamping it down firmly with the back of the shovels to form a fairly smooth and compact hemisphere.

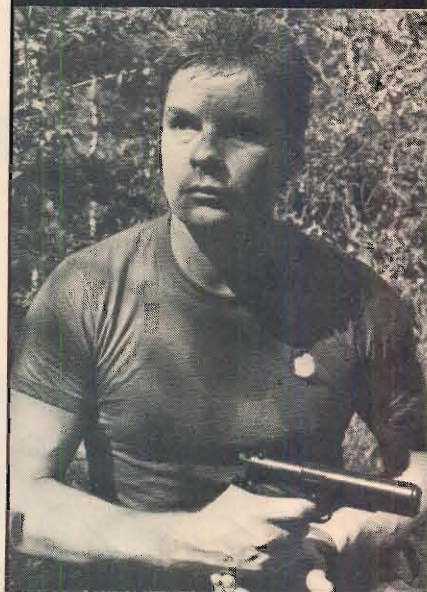
When it is determined that the outer crust of snow is at least 12 inches thick and that the igloo is as big as desired (approximately six to a maximum 10 feet in diameter), step number three begins.

3) A tunnel is dug under the mound to reach the now buried gear which is retrieved, leaving a hollow cavity inside the mound and voila . . . an instant igloo is formed!

Remember that this tunnel will later form the *torsho* or entrance corridor, therefore the tunnel should not be dug straight into the side of the snow mound, but should "tunnel" about three feet underneath it. The location of this entrance is determined by the direction of the wind. Perpendicular (90 degrees) to the prevailing wind is optimal to keep gusts and snow flurries from being blown into the living quarters as would happen to an entrance facing the wind and to keep the entrance from being accidentally sealed off as might happen from snow drifts if it were

(Continued on page 64)

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Shovel-Ups: The Instant Igloos

(Continued from page 63)



Anyone who has ever constructed an igloo, cut ice blocks, carried ice blocks, shaped ice blocks and stacked ice blocks will tell you, "There's gotta be an easier way!"

located downwind.

4) At this stage the shovel-up is already a crude shelter, though a few minor "touch-ups" are needed to make it really effective and comfortable. In a shovel-up, as in a traditional igloo, it's vital that the surface of the inner wall be perfectly smooth. Any little pock marks will capture warm air which will eat away at the indentation, like a cancer, slowly weakening the structural integrity of the whole unit. Furthermore, any protrusion or rough spot will act as a spigot for condensation collected on the shovel-up wall, an annoyance similar to the constant drip-dripping of water off a cavern stalactite. A little smoothing goes a long ways towards a person's mental well-being.

Smoothing down the igloo's walls also gives it quite a bit more room inside, and the walls can actually be honed down to a mere four to six inches thick. There's no need to fear that this will weaken the shovel-up to the point of collapse. After sitting 20 minutes, the ice crystals in the compacted snow begin to weld together, forming an incredibly tough shell that should even be able to support the weight of several people atop it. A couple of us walked over ours the following morning

with the igloo and the climbers none the worse for it. The Eskimos add extra strength and smoothness to their own igloos by lighting a fire inside and sealing off all the entrances as they leave. In a short time the walls start to melt slightly, leaving a very slick and extremely durable coating of ice on the inside when the fire is out and the melted water refreezes.

Thin Walls—Having the walls fairly thin adds another advantage. Though one can't see into an igloo from the outside, the refractive quality of the ice and snow makes the addition of windows unnecessary for the inside. It's surprising how much light diffuses through, filling the entire room with a pleasing blue glow. Although I found this amount of light to be adequate, the Eskimos take illumination a step further. In John Ross's book, *A Second Voyage In Search of a Northwest Passage*, published in 1830, he made note that, "Of these huts, built entirely of snow, I must add that they were all lighted by a large oval piece of clear ice fixed about half way up on the eastern side of the roof."

The reflective quality caused by the ice crystals inside means that very little light is needed to illuminate the snow house. One

single candle is enough to illuminate it well enough for performing basic household functions, while two candles will actually give one enough light to read by.

Once the igloo itself is completed, the entranceway needs to be perfected. The entranceway should be about three feet lower than the floor for the simple reason that warm air rises and cold air sinks. The Eskimos, in their snow wisdom, build bunks of ice to bring their sleeping quarters closer to the ceiling, which makes extremely good sense. Every two-and-a-half feet higher equals approximately 10 degrees warmer air.

To keep the entranceway from filling up with snow (as well as to keep out unwanted drafts), the entranceway is always roofed. This is done by simply laying ice blocks over the top of the trench. An even better way is to stand the blocks up to form an A-frame type roof, giving one just that much more clearance when crawling in.

As for ventilation, the open tunnel entrance provides enough fresh air, so long as no cooking is being done and no heaters are being used to keep one warm. A fire rapidly depletes all available oxygen and as a byproduct leaves behind poisonous carbon monoxide. If one must build a fire

they need to first carve a small *krinjak* or smoke hole in the roof of the igloo, about the size of a clenched fist. Since carbon monoxide is lighter than air it will always flow upwards and out. This hole also creates a draft that actually helps to draw fresh air in from the tunnel. In order to stop this cold exchange of air after cooking, the hole can be plugged up with a spare balaclava or just as easily with a rolled up pair of socks.

Even the strongest igloo can be whittled away in a prolonged snow storm, by the abrasive action of ice particles that work like a sand blaster in the stiff wind. If there looks to be a strong storm brewing on the horizon, it's a good idea to construct a snow wall a couple of feet upwind of the igloo to protect it.

The snow wall can be either made of ice blocks (your best bet) or piled-up, tamped-down snow. To make ice blocks is a fairly easy task (unless you're making enough to build a whole igloo). Simply pack down several square yards of snow, then dig a trench from two to three feet deep on the outer edge of it to begin the cuts from. Working from the trench, cut into the compacted snow with an ice saw or an ice axe, and pry out your blocks with a shovel. Even if the wall gets blasted away in the ensuing storm, snow drifts will have piled up between it and the igloo, thereby protecting the igloo proper.

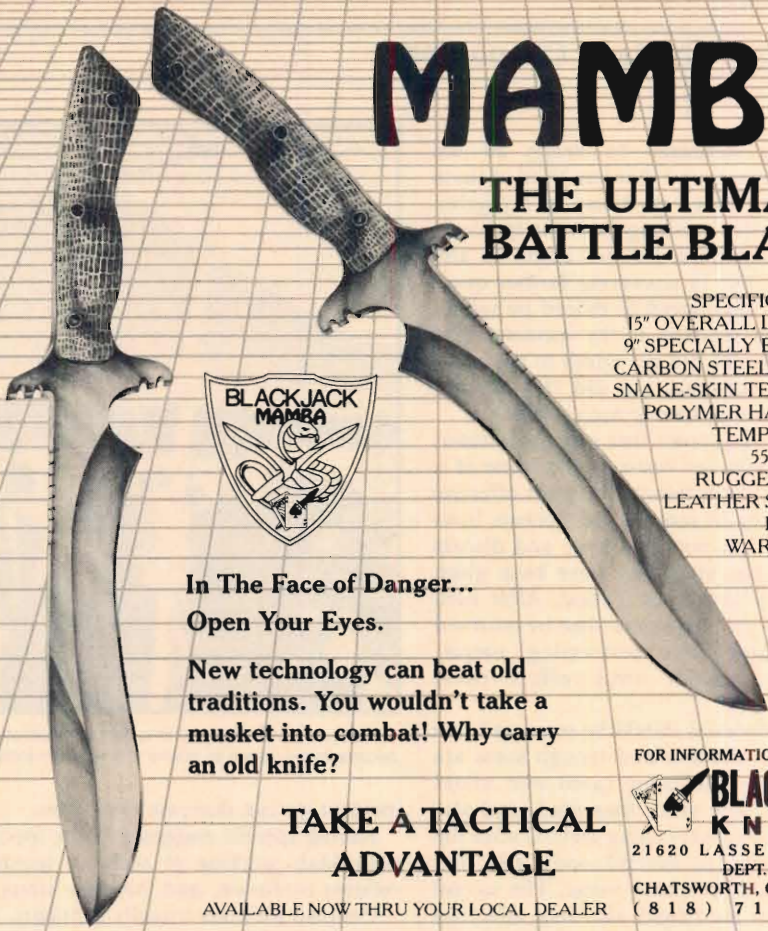

A quick word on keeping warm. Few people comprehend that just sleeping in a good down bag or wearing expensive down jackets and tightly knit pure woolen sweaters will not necessarily keep one warm. The best that any of these materials can do is conserve available body heat, but the heat must first come from within. The night that my companions and I slept in our shovel-up igloo, I was the only one that remained very comfortable and warm. The secret to this was my diet. For this overnight trip I feasted on very high energy foods: date bread smeared with huge amounts of margarine, chocolate bars, nuts and nut butters, pecan pies, anything I could find to be extremely high calorie (anything on the "no-no list" in a Weight Watcher's handbook).

Insulation is also of utmost importance in keeping warm. It does absolutely no good to build a warm igloo, eat high energy foods, and lie in a warm bag, if sleeping directly on the ice. All that warmth will be absorbed by the cold and sooner or later the body's natural furnace will not be able to keep up with the drain. This is why special foam pads, Insulite or other efficient insulating mats, are considered essential equipment by back country hikers.

Even in the bitter cold climates, if one only learns how to shelter right, eat right, and insulate right, their "disaster" will likely turn out right in the end. ●

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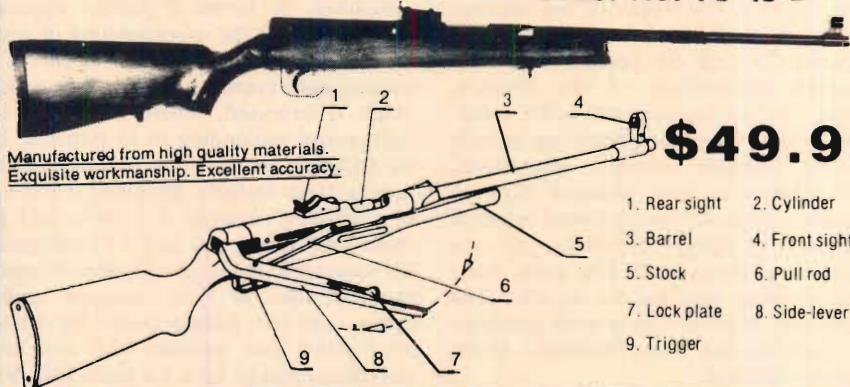
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Coping With Mass Casualties

(Continued from page 51)

Helping Rescuers—In nearly all the studies it was found that one-third of those involved admitted problems of a psychological nature resulting from the incident. Another one-third did not admit to any problems, but in answering further questions were discovered to indeed be suffering from a reaction to the incident. The other one-third did not admit to any post-incident problems, nor did they display any evidence of having such problems.

It has been shown that when manifestations of burn out occur at the scene of a mass casualty incident, the most effective treatment is to remove the workers from the work, but not the scene, and discuss their feelings after they have been given warm food and a rest period. After such assistance the person can then be returned to the operation, performing simple, supervised tasks until effectiveness returns.

The individual should be reassured that efforts are effective and though some are dying, many are being saved who would have died. The most often used (and also the most effective) coping method after the incident was to remind one's self that things could have been worse. The second most often used (and also very effective) technique was to put the situation into a more realistic perspective. Not surprisingly, family and others who were at the scene provide the greatest support in overcoming associated problems.

Often this support takes the form of merely allowing the individual to air feelings about the incident and his involvement with it.

The psychological problems of people associated with such an incident appear to peak within a few weeks of the incident and, for most, diminish from that time on. Between 75 and 85 percent will have repeated recollections of the disaster. Twenty to forty percent will suffer recurrent dreams. Other manifestations include sadness, fatigue, anxiety, depression, guilt, insomnia, and anorexia (loss of appetite). Some of those involved reported experiencing severe depression at any reminder of the episode. For some, these manifestations may last for months. The continued manifestation of such problems has been termed Post Traumatic Stress Disorder (PTSD).

Reducing Problems—There are ways to reduce both the incidence and severity of the manifestations of PTSD. Preparation, including having large amounts of medical supplies stored and readily available, is one way. A mass casualty incident is one in which the sheer number of patients overwhelms available resources. As the research has shown, this "overwhelming" effect contributes greatly to the stress. By increasing resources available for such an



There is not as much stress in a disaster situation where adequate resources are available. As resources become taxed, stress to victims and rescuers increases substantially.

incident we can decrease that stress.

Having specific assignments for specific individuals working at such an incident reduces confusion, and therefore stress.

Pre-plan for mass casualty incidents. An aircraft carrying four passengers, crashing into a farm house will obviously not require the same response as a jumbo jet crashing into an office building in the middle of the afternoon.

It does little good to have plans that are untried. Realistic training is invaluable. Research has shown that "veteran" rescuers performed much more efficiently at the scene of a mass casualty incident than their inexperienced counterparts.

Realism, in terms of patient appearance, time, and the overwhelming of your available resources, is a necessary part of a mass casualty exercise. To have an exercise which is expected, where there are 10 ambulances responding to 15 patients, in the middle of the day, that is completed in an hour is not realistic. Wouldn't it be a lot more effective exercise if it were held at about 3:00 A.M., you had 10 professionally moulaged (made up to appear injured) patients, four of them trapped under debris, and two pickup trucks for transport? Even four patients and only one ambulance would be a lot more valuable training experience than what most communities attempt. The point is, practice functioning under imposed, simulated stress so that you can function efficiently when your resources are overtaxed and the blood is real, and the dead go to a morgue rather than to their homes.

Many cities now require their emergency service personnel to speak with a counselor after any incident that is particularly traumatic to their psyche. Most municipalities will make provision, for personnel who

request it, to see a counselor, but the individual must request it.

As pointed out earlier, one-third of the rescuers involved in the skywalk collapse did not realize they were symptomatic of PTSD. It was found that one-third of the rescuers who realized they were experiencing problems were reluctant to seek help. It's obvious from this that a visit to a professional stress counselor should be mandatory for anyone involved in a mass casualty incident or any other unusually stressful incident.

In those areas where the involved people are left on their own to cope with their problems it is up to their peers to help them to talk it out and, when necessary, seek professional help. When a policy does not govern our undergoing counseling, we should be sufficiently mature to realize that we need to talk out something that's bothering us.

It has been established that the majority of people involved in mass casualty incidents later exhibit one or several symptoms of Post Traumatic Stress Disorder. The incidence and severity of these problems can be reduced by a three-part program: contingency planning and preparation for an incident that would tax all our resources; realistic training in the implementation of those plans; and post incident counseling to help us recognize and deal with the psychological effects of such an incident.

Until we realize that it's okay to admit to being disturbed by certain aspects of our situation, and until we include contingencies for handling the psychological effects of disasters, the number of actual victims resulting from a mass casualty incident will continue to be larger than the statistics quoted in the morning paper. ●

Trident

(Continued from page 53)

some in the U.S. think that capability is destabilizing to the nuclear balance of power.

Each Trident boat is 560 feet long, (approximately the size of the Washington monument), 42 feet abeam, and displaces 18,750 tons. The normal crew complement aboard Trident is 165 men: 15 officers and 150 enlisted. Trident patrols last on average 70 days. Patrol lengths aboard nuclear submarines depend more upon the amount of provisions that can be carried, and upon the psychological pressures of separation from family and friends of the crew, than they do on any inherent limitations of the boat itself. In fact the nuclear fuel core in a Trident will last 10 years before it needs to be replaced.

Trident, like all nuclear submarines, need not surface for the entire duration of a patrol. Air and drinking water are made from the sea using the waste heat generated by the nuclear reactor. During a normal patrol a Trident boat will make no transmissions or reports to headquarters. Messages are however received by the submarine on a pre-determined schedule. Prior to Trident a boomer would have to either rise to very near the surface and extend an antenna, or would have to release a floating wire type antenna from its submerged position, in order to receive messages and orders. A new communication system utilizing two extremely low frequency transmitters located in Michigan and Wisconsin has recently come on line. This system allows the boomers to remain submerged and still receive orders and updates.

U.S. nuclear submarines including Trident have two separate crews, the Blue crew and the Gold crew. While one crew is on patrol the other crew is ashore. This system allows for an orderly rotation of crew members and gives them some stability in their family lives since they know in advance when they will be on patrol.

The main job of all U.S. SSBNs, Trident included, is to "disappear" while on patrol. As long as our boomers remain undetected their value as a nuclear deterrent is maintained. To this end, once dispatched on patrol, not even the U.S. Navy knows the precise location of a Trident boat. Patrol orders usually give a captain a state-sized area of ocean in which to patrol. It is up to the captain and his officers to determine where in that gigantic area they will "lose" themselves.

In order to stay lost Trident has been designed to be, in effect, the first U.S. "stealth" submarine. Stealth in submarine technology means quiet, and Trident is designed to be the most quiet submarine the U.S. has ever built. The decks aboard Trident are isolated from the hull of the boat by large turnbuckles—in effect giant shock absorbers with massive rubber bush-

(Continued on page 69)

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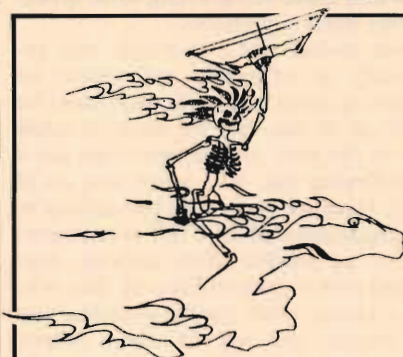
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Desert Isle

(Continued from page 31)

that papain is extracted, the active ingredient in the best of meat tenderizers. The peeled chunks of these green papayas, when thrown into a pot containing any tough-meated flesh, would soften it considerably. The same enzyme also aided the stomach in digestion. In case the knife-wielding chef happened to slip a bit and find a nasty cut, a poultice of this sappy green papaya served to check the excess flow of blood.

When the papaya shows the first hints of yellowing on the outside, it is at the "carrot stage." When peeled, deseeded and sliced, the crunchy, sweet orange flesh inside tastes remarkably similar to carrot. These same carrot slices, when soaked in a glass of fresh water for several hours, further ripen on their own, taking on a texture and taste incredibly like an apricot.

With just the proper dash of cinnamon and cloves, a firm but ripe papaya—boiled tender and sweetened to taste—can be transformed into a peach cobbler that defies the most discriminating gourmet to tell the difference.

To be different, sometimes I ate this fruit *ala carte*. One-half of a ripe papaya contains all the vitamin C a body needs in one day, and the rich orange color is testimony to a significant amount of vitamin A.

The cooked down pulp of overripe papayas could take the place of tomato paste; the main ingredient of my island catsups, chutneys, lasagna and spaghetti sauce. With the proper measure of oregano and garlic, a flair of basil and a sprinkling of anise seeds, all spread on homemade dough, the perfect tropic pizza was born. With a coconut cheese topping, even Robinson Crusoe never had it so good.

Paradise Provides—For our greens we ate the leaves of tapioca, breadfruit and *bele* (a tasty relative of hibiscus), and the tender growing tips of the papaya. A natural "pepper" could be gotten by crushing the pungent seeds of ripe papayas and using them judiciously to season salad dressings (or as an island medicine for worms). To salt our food meant merely adding seawater.

Our tea leaves grew on *moli* (lemon) trees which when dried and boiled made a most refreshing drink. The water for our tea fell, like manna, from the skies.

A very nearly perfect substitute for flour could be had by grating up tapioca roots and washing out the starch in cold water. A boiled pudding made from this starch, rich coconut milk and sugar would set firmly without refrigeration.

Three months passed by before it even dawned on me that we'd been surviving without refrigerators; a modern "necessity" I'd never even dreamed that one could live without (but pleasantly discovered that its only necessity is what's



Beachcomber's headquarters. This native Fijian bure was home to the author and his wife for four full months.

contained within).

There were few things we would have liked refrigerated anyway, the only things tending to spoil overnight being fresh cut papayas, pineapples, or cooked onions; all foods with a naturally high sugar content. But hearty appetites and cooking smaller portions always kept leftovers to a minimum and made refrigerating these quick-spoiling items superfluous.

Even cooked meat, we found, was unnecessary to refrigerate and should we happen to catch and cook more than we could eat in one day, we found it safely kept to the next, and several times ate it the following day, too; never with an ill effect. Granted, there were precautions in the preparation, all fresh fish were cleaned as soon as possible after catching, kept covered with a cloth to keep off flies (who had a keener relish for the wounds of the living), and left in shady places; besides being well cooked again before the next meal.

Sauces, jams, and chutneys could be canned in empty jars. Boiled eggs and fresh vegetables could be kept fresh by submersing them in undiluted vinegar.

Most of our food wastage was attributed not to decay, but to insects. The common earwig was public enemy number one, is oblivious to ordinary sprays (and even had to be stomped on twice.)

Ovens were also, we discovered, an unnecessary convenience, so long as one could build a fire. And as to this method of cooking, it was not only easy, it was faster, more efficient, cheaper, and gave food a flavor that can not be equalled with modern means.

Baking cakes or pies was accomplished in a makeshift oven consisting of two pans, one with a diameter at least several inches larger all around than the other. The larger pan served as the oven proper, and

the smaller pan the oven dish. To bake a loaf of bread for instance, all one needed to do was to preheat the larger pan first, setting it on a cast iron griddle (to regulate the heat) and build a small fire underneath. Next, the oven pan was covered with a sheet of roofing tin to keep in the heat, and a small amount of coals were heaped atop of that. A perfect loaf of bread would bake in 40 minutes.

As to our meat source we were blessed with the perfect delicatessen just a step away from shore. In the orange and yellow coral aisles where we shopped were parrot fish, sea trout, chicken fish, mackerel, octopus, eels, stingrays, turtles, giant clams and lobster, just to name a few.

With regards to cleaning dishes (for this drudgery, I've come to notice, invariably follows cooking) on a *motu*, nature provides one of earth's most effective abrasive cleaners, which never failed to impart a shine to pots and pans (providing a little elbow grease was involved). In other words, we used sand, which worked so well we began to wonder how we would get by someday without it, and even contemplated grandiose ideas of marketing the stuff under the product name of "Fijian Brand Dish Detergent: the world's first reusable dish soap."

The simple life is not the easy life, but as I hung the last pan to dry in the sultry evening air and rested from the day's labors, my senses revelled in the sights and smells about me: green and scarlet parrots feasting on ivory coconut flowers, a thousand tiny fish that skipped in unison on the blue-mirrored surface of the infringing reef, smoky breadfruit baking in the ashes; a symphony of sensual satisfaction. Then suddenly, in the midst of this delightful dusk, it dawned on me that all a man can lack upon a desert isle is imagination, initiative . . . and time. ●

Trident

(Continued from page 67)

ings. Anything aboard Trident that is capable of making noise, from engine bearings to kitchen mixers, has been designed with an emphasis on quiet operation. Rubber and other sound-absorbing coatings cover everything from pipes and wiring conduits to hatches, vents, and machinery. The hull of Trident (like her Soviet counterparts), is covered with an anechoic coating, a rubbery material that absorbs rather than reflects sonar signals. Some Trident crews even have a vote once a week to determine who will win the "comrade" award. That is, who has made the loudest noise aboard the boat that week.

While noise made aboard a Trident can be its main enemy, the noise generated by Soviet subs and sub hunting surface craft can be an ally.

Along the hull of a Trident boat are over 1,000 passive sonar hydrophones which constantly listen for even the slightest sound. If something is heard the sonar operators can feed the signal into the Trident's signal processing computers. The computers are able to compare the signal with a built-in library of thousands of natural underwater sounds and the sounds (signatures) made by specific Soviet vessels. Since each vessel, surface craft or submarine, has its own distinct signature, the signal processing computers, and often the sonar operators themselves, are able to tell not only the class and type of vessel emitting the signal, but frequently the identity of a particular ship or sub.

If The Day Comes—A nuclear ballistic missile submarine is the only leg of the U.S. triad that can launch a nuclear strike without orders from the National Command Authorities, NCA. It is also the only place in the entire U.S. military where, in order to prevent an unauthorized strike, mutiny is sanctioned.

Should deterrence fail and Trident be called upon to launch her missiles, the first indications would come in the form of an Emergency Action Message, EAM. This message can be transmitted to the sub through a number of redundant and independent systems that are designed to insure the "connectivity" of the boomer to the NCA.

The EAM will include separate coded orders for both the captain and the weapons control officer. Once decoded, the EAM orders must be verified by two other officers before the launch sequence can begin.

Updated readings from the Trident's Ships Internal Navigation System, SINS, are fed into the missile guidance systems at a rate of 10 times per second. SINS is accurate to within 30 feet for any location on earth. Once launched the Trident missiles will also be able to make course corrections using star locations and the

Global Positioning Satellite System, GPSS. The Trident 1 missile is accurate to within 750 feet of its target, while Trident 2 will be able to land within 400 feet of its aim point.

Within 30 minutes of the receipt of an EAM, Trident will be ready to launch her missiles. Once verification of the EAM is made, four officers must act to initiate a missile launch. Two officers, each with a different combination, will unlock a safe and deliver a red key to the captain and another to the weapons control officer. Both keys must be used to enable the missiles to fire. A third switch must be thrown by the navigator to unlock the final safety circuit before the weapons are armed. Firing of the missiles is done by the launch control officer who pulls a trigger on a device which closely resembles a computer game joystick controller.

The normal missile firing sequence is from fore to aft on one side of the double row of missile tubes, then aft to fore on the other side. Missiles can be fired with as little as 20 seconds between each launch.

Unlike many major Defense Department programs, Trident seems to have escaped, except at the very start of the program, the usual cost-overrun horror stories. Today even Trident's harshest critics concede that Trident is one of the most successful and effective programs ever undertaken by the Pentagon. Indeed the effectiveness of the program has become the focus of the criticism aimed at it.

There are those in Congress and among peace groups throughout the country who say that Trident, because of its hard target kill capability, is a destabilizing first-strike weapon. These critics contend that since Trident can threaten Soviet missile silos and command and control centers, that threat will make the Soviets more likely to launch their weapons in a time of crisis, rather than risk losing them to a U.S. first strike.

What seems missing in this argument however is the acknowledgement that the Soviet Union continues to build up its own nuclear weaponry at a rate far in excess of that of the U.S. The Soviets are deploying new mobile ICBMs to counter the threat posed by the accuracy of American systems. They have also deployed their new Typhoon class ballistic missile submarines, the largest submarines in the world. The U.S. submarine fleet is currently outnumbered almost three to one by the Soviets.

The Soviets have continued a program of construction and modernization of their strategic forces. There has been little, if any, criticism that such a program is destabilizing. It seems that many of the Trident's critics see only U.S. weapons systems as destabilizing. ●

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SURVIVALIST DIRECTORY

THIS IS A CONFIDENTIAL listing of survivalists who wish to become known to others of like mind. *American Survival Guide* will accept properly coded mail and forward it to the coded addresses without charge. *American Survival Guide* accepts no responsibility for the contents or results of these confidential communications. Mass mailings are not permitted.

ASG 201

Clearfield, Pennsylvania, wish to exchange ideas and information with low profile survivalists, possibly form or join a group. Ex-Army, experienced with first aid, firearms, small unit tactics, outdoors/backwoods, security, and edible plants. Would like to learn all aspects of survival, specially self-sufficiency, shelter design/construction

ASG 0202

The Dalles, Oregon, seeking to form a national network under our name. If you are interested in having access to the free flow of information, ideas, materials, and help that this will create, please write c/o DEK.

ASG 0203

Sylvia, North Carolina, survivalists wish to correspond with people of like-mind in NC or neighboring states. Must have will to live. Ideas welcome.

ASG 204

Greenville, South Carolina, well-trained, young survivalist looking for persons with helpful information on forming a small survivalist militia, plus looking for persons who have helpful information to trade. Commies, gays, nuts, druggies, and Rambos not welcome. Need experienced information, not common, book-read information. If you desire discreet mailing, use code name.

ASG 205

Walkato, New Zealand, persons seeking full military training in South East Asia. All information welcomed.

ASG 206

Wellington, R.S.A., small survivalist group would like to hear from any other groups or individuals to share information, correspond and discuss the possibilities of joint training and assistance packets. Prefer South Africans. No Rambos, reds, left- or right-wingers; only sincere hardworking people. All ages, sex, religions and races.

ASG 207

Oklmuglee County, Oklahoma, husband and wife survivalist looking for other survivalists in the northwest Oklahoma area to exchange information, possibly from survival group. Have backgrounds in auto mechanics, welding, dog training, firearms, plumbing, security police officer and martial arts. Please no racists or paramilitary extremists. In need of someone with paramedic or doctor skills.

ASG 0208

Singapore, young survivalist seeking correspondence with all survivalists and foremen. Especially interested in contact with Alberta, Canada survivalists, but all are requested to respond.

ASG 0209

Memphis, Tennessee, 39-year-old veteran with family of five wishes to meet other survivalists for exchange of ideas, possibly starting a survivalist group. I am not a fanatic, just want to protect and provide for my family in the times ahead.

ASG 0210

Reno, Nevada, desiring contact with Libertarian-minded survivalists. Acquiring land in remote areas for survivalist communities. Must be dedicated.

ASG 0211

Westchester, New York, have small survival group, looking for more members so that our group can grow. Getting ready for the future that we hope will never come. Or would just like to hear from survivalists in the area.

ASG 0212

Poway, California, small survival group, has land in New Mexico and Arkansas. Looking for serious people willing to relocate and work hard to build survival retreats on land.

Address response letters as follows:

American Survival Guide
ASG 0000 (Code Number, As Above)
2145 West La Palma Avenue
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Your letters will be forwarded to persons listed within two days of receipt. *American Survival Guide* accepts no responsibility for loss or delay or inquiry letters. Contact letters that do not carry the appropriate code number will be discarded.

Those who wish to be added to the directory listing, please send names and addresses to *American Survival Guide*, 2145 West La Palma Avenue, Anaheim, CA 92801. The listing is free. ●

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BOOKS/VIDEOS

(Continued from page 10)

combat are nothing new in Oriental self-defense, it's not generally known that knife and gun combat are proven techniques dating back hundreds of years. Dr. Hatsumi, himself, is the 34th master in an unbroken line of teachers in this style of ninjutsu. Because this book is a direct translation from the teachings of Hatsumi it can be a little confusing to westerners at first since the pages read from right to left. Perhaps this is an Oriental way of saying, "Although we start at the end, working towards the beginning is a renewing experience." And, besides, although the pages are backwards, the well-illustrated methods are straightforward.



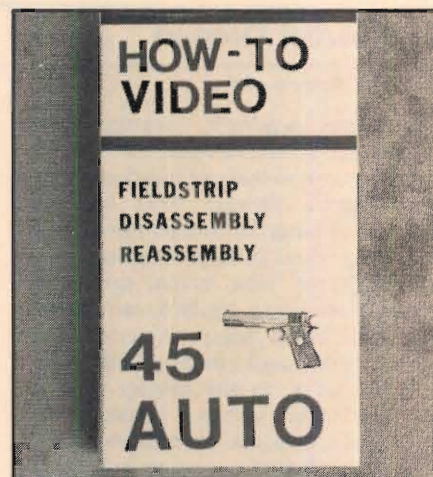
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.45 Govt. Auto: Fieldstrip, Disassembly, Reassembly, with John Seginski; TJE Video Productions, Dept. ASG, P.O. Box 50141, Reno, NV 89513; 47½-minute video tape available in VHS or Beta; \$19.11 plus \$1 postage and handling fourth class or \$4 first class, COD (first class) okay.

If you own a .45 Government Model pistol, you've probably wished you had something like this tape at one time or another.



"Nevada" John Seginski goes, step by step, through field stripping and then total disassembly of the famous pistol and then total reassembly with close-up video detail and using only simple tools commonly available. This clearly and simply done video is a great teaching device that will help the .45 owner know and service his/her gun without the costly help of a gunsmith. Keeping your pistol cleaned and oiled is vital to having it ready for use when needed. If you don't understand a step in the process, just stop the tape, rewind and play that step back as many times as necessary until you've got it. An aid for the .45 Government Model owner/operator. ●

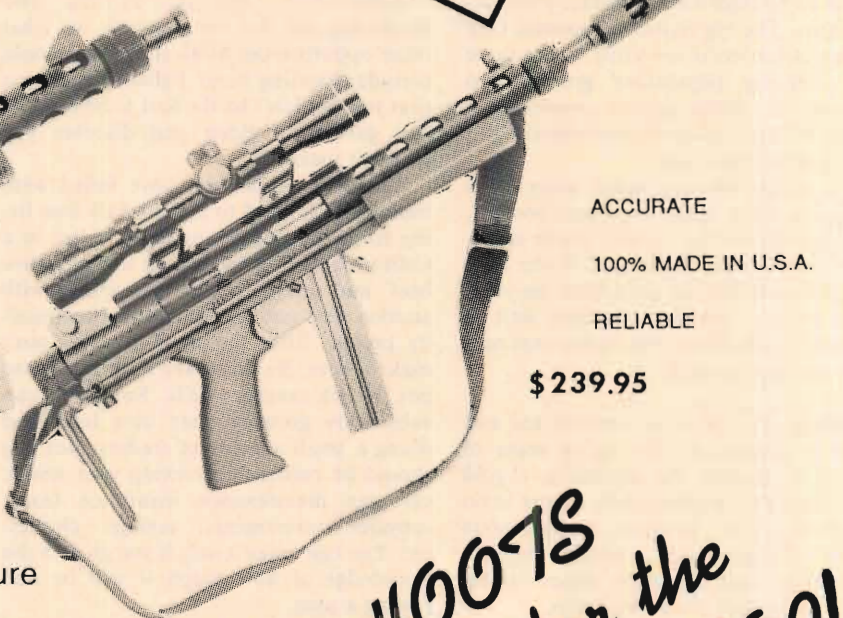
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Southwest Oregon

(Continued from page 29)

mice, rats, squirrels, skunks, brush rabbits and snowshoe hare.

Did I mention that our location is on the great Pacific Flyway? With the large amount of water in various forms, water fowl are present in large numbers. These include: grebe, loon, heron, egret, night heron, black brant, mallard, canvas-back, spoonbill, lesser scaup, American merganser, ruddy duck, baldpate and coot.

While we're on the subject of birds, throw in: turkey vultures, hawks, grouse, quail, dove, owls and shore birds.

Last, you'll find numerous reptiles and beneficial snakes along with the western and pacific rattlesnakes. The six-inch Pacific pond turtle habits most waters along with frogs and salamanders.

Forest—This entire forest region is dominated by huge coniferous trees—many running well over 300 feet high. Just a few of the more common trees are: douglas fir, sitka spruce, western hemlock, lowland fir, redwood and the giant cedar.

Other trees consist of red alder, canyon oak, tan oak, Oregon myrtle, big-leaf maple, chinquapin and Oregon white oak.

The famous redwood forests run from the southern Oregon coast to Monterey County in central California and usually extend no further inland than 20 miles.

For the benefit of archers, I'll mention that this area supports the rare Port Orford cedar from which high quality arrow shafts are made.

Most of the forest land is divided into private, state and federal ownership. A large share of this land is owned by large lumber companies who cooperate with outdoorsmen. The big timber companies help insure a steady economy while, at the same time, limiting population growth and development. Other private ownership is largely in the hands of individuals and located along the coast.

As a person who has spent many years developing water in the southwest boonies, I can appreciate the "water, water everywhere" conditions of this land. Water here is no problem; you can get it from the year-round streams, creeks, a shallow well or just catch a few of the 100 inches that rain down on many areas.

Mining—For both the professional and amateur prospector, the entire state of Oregon is, pardon the expression, a gold mine. And this southwestern corner is no exception. The interior mountainous country contains gold, nickle, copper, cobalt, silver and chromium mines—along with uncountable placer locations.

In addition, the beaches are rich with gem-quality agate, jasper, pertified wood, serpentine, jade and, believe it not, gold.

The quaint village of Port Orford was settled in July, 1851 after 67 armed men

held out against the Indians long enough to determine that the rumors of gold in the beach sands were actually true. Port Orford then grew to become the first town on the southern coast of Oregon.

A few years later, gold was discovered in the black sands of the beaches for 20 miles on either side of the mouth of the Rogue River—now Gold Beach. This whole section of coast resembled a major gold rush and serious mining continued right into the 1930s.

Considering the amount of fine gold distributed up and down the coastal sands, you can imagine what you might expect to find in the mountains above the coast. Some productive placer locations include: the upper Rogue, Illionis River, Lobster Creek and the Graves, Jump-Off Joe, Wolf, Galice and Whiskey creeks.

'The entire state of Oregon is... a gold mine.'

Admittedly, fishing, mining and lumbering are not for everyone, so what other opportunities await those who would consider locating here? I should warn you that you wouldn't be the first to be lured to this garden of Eden and discover you couldn't make it.

Typically, those who have failed were the ones who tried to make a full-time living from farming or ranching. I live in a California community which has an active beef and grain market complete with auction yard and an agricultural commodity broker. Still, the small rancher can't make it here. He must take a job in town to pay all his ranching bills. Sure, you can subsist by growing your own food and doing a small amount of trading, but you should be realistic in viewing your needs: car, gas, maintenance, insurance, taxes, supplies, investments, savings, clothes, etc. You can make it only if you go with the knowledge of how tough it will be and having a plan.

I think the best opportunities for earning money come from having your own business. Any skilled person, including the arts, crafts and professions, could probably make it here with the appropriate

planning and advanced spade work. Business opportunities might fall into four categories: serving the needs of the local residents; serving the tourists; agriculture or fishing and manufacturing with an outside market in mind.

Here are some services offered in the same three newspapers: land grading; buy scrap gold; tree trimming; wood stove sales; douglas fir milled to your specs; propane service; marine engine service; rebuilt batteries; old pictures copied; custom crab pots; mineral detectors; timber cruising and brush cutting.

If you are fortunate enough to require only a part-time income, then you could probably get by relatively easily. Many in the area do. Often a hobby supplies a small income. One local couple have a hobby of beachcombing. Their retrieved treasures include Japanese glass floats, drift wood, timers, bottles and rough gem stones. Usually, these items are incorporated into a craft where the product is sold to tourists.

One of my favorite businesses would be the one-man saw mill. In addition to normal lumber requirements, I would deal in specialty or exotic woods and perhaps build furniture or houses from my own products.

Agriculture—It would be well to expand on the agricultural nature of the area since that is the foundation of survival for so many. First, many think of cranberries as an eastern product, but you will be happy to know that they are also grown profitably in the coastal stretch between Gold Beach and Bandon with an Ocean Spray company receiving plant located in Bandon.

Evidence of this crop is clearly visible if you'll observe the waffle-like patterns in the landscape formed by the dikes which hold water at harvest time. The cranberries float to the surface when ripe and are then skimmed off. If you time your visit for the end of September, you can join in the crazy and entertaining Bandon Cranberry Festival.

In your first perceptions of this area, you may be impressed only by the dense forests, yet there are enough open spaces hidden among them to sustain a sizable sheep ranching industry. In 1880 the county assessment rolls showed an inventory of over 22,000 sheep. A recently assessed inventory showed a rather consistent 16,500 sheep.

Rangelands are gradually being improved to provide better forage. Coyotes love the easy meals and so deterrent fences are being constructed as money is available. This is the preferred plan to that of extensive poisoning.

In the mountains above Bandon you will find large open grazing and pasture lands on the Coquille River. This is dairy



The Rogue River and highway bridge near the mouth at Gold Beach.



The harbor and wharf at Port Orford, showing boats stored on wharf, lifted there by crane.



Beach at sunrise in Bandon.



Elk at Prairie Creek, just south of the Oregon border.

country around the two towns of Coquille and Myrtle Point. Also, there is a large lumber mill on the river near Coquille.

The dairy farmers formed a co-op, similar to the large one in Tillamook, to manufacture and market cheddar cheese in their plant at Bandon. Visitors are welcome there to view the process.

Generally, the soil in this region is very fertile and it is obvious that water is no problem. Accompanied by a mild climate with around a 250-day growing season, I feel there are new opportunities in agriculture to be explored. As in other states, you can receive considerable help from the university agricultural extension service.

To become involved in agriculture you must have land. You can lease it or buy it. Many others have purchased land before they became completely familiar with the region and as a result there is plenty of land for sale under distressed circumstances. Generally, though, prices have moved up with the rest of the country—especially California. No longer is there land that can be called anything close to the word cheap.

One way to survive in Oregon is to pay cash for your home or farm. Because of the lower living costs in this area, you could get by with a minimum income.

It would be well to look at some current real estate prices so that you could decide in advance if you fit into the category of "land baron." No matter what the price, easy terms are almost always available if

you can make the monthly payments.

Climate—Climate should be an important part of your decision on where to live or where to establish a retreat. It tells you how much energy you will need to stay warm or cool. It will tell you what your chances are of being assured plenty of water. It will tell you how much you can grow and what kind of crops. It will tell you how much money you must spend to build a shelter. The climate will also tell you whether or not your body will be comfortable—or even survive extremes in annual temperature and humidity changes.

One of the best features of this coastal Oregon climate is the middle point in which most conditions fall. The emphasis is on water, but I count that a plus.

From Brookings to a little north of Gold Beach, the climate zone is the same one that runs all the way down to Point Conception near Santa Barbara. Santa Barbara is thought by many to have the best all-around climate in the country.

The key to Pacific Coast mild climates is the constant warm temperature of the Pacific Ocean which influences land temperatures for many miles inland.

Frost conditions are seldom experienced. Fogs come in high enough so that ground visibility is not blotted out and they aren't excessively wet. Anything will grow in this zone, although certain fruit will not develop or ripen well such as bananas and

some citrus. A short distance inland, the air can warm just enough for most semi-tropicals to grow.

Beach areas experience a constant breeze providing good wind power potential. The average summer day will run between 60 degrees F. to 75 degrees F.

From Gold Beach to the Olympic Peninsula in Washington State, the climate becomes a little cooler and wetter. Although lying in the same general latitude as Bangor, Maine, the climate tends to be more like that of southern England. Even though you are right on the ocean, the humidity is relatively low and enjoyable compared to the eastern or southern states. The average difference in temperature between January and July is only 15 degrees F.

The rainy season begins in November—along with the fog—and ends in March. Rainfall figures differ according to your location relative to the mountains, but you could expect between 50 to 100 inches.

For those concerned with an increase in the greenhouse effect, causing the polar ice to melt, the Pacific Coast, for the most part, would remain dry while all the cities on the Gulf and Atlantic Coasts would be flooded.

This coastal zone can expect between 2,000 to 2,200 hours of sunshine annually. This would compare with Chicago which averages 2,600 hours; Miami 2,900 hours, Phoenix 3,800 hours and Los Angeles 3,200 hours. ●

Survival Food:

Nature's Free Harvest

Foraging for wild edible plants . . .

PHOTOS BY LEE ALLEN PETERSON



MOST Americans are so far gone into the "supermarket mentality" that they would never even think to look for food anywhere outside of a store. But the fact is that there are literally hundreds of plants that can be gathered in the wild, foodstuffs which are nature's harvest and free for the picking.

If supermarkets ever close their doors, the ability to forage for wild edible foods could become a crucial skill. Even with a substantial reserve of food stored away, it would be an advantage not to have to dip into those emergency rations so often by supplementing meals with wild edible plants.

Don't wait until worse comes to worst to learn the skills of wild foraging; it's best to start out sampling wild plants long before survival is the motive. That way you get initiated into the process gently, gradually learning what wild foods in your area are easiest to gather, where they can be found, which taste best, and how they should be prepared.

Wild edible plant expert Lee Allen Peterson says there is one very important rule when gathering wild foods in a survival situation: Don't use more energy gathering and preparing the food than you get in return from the plants.

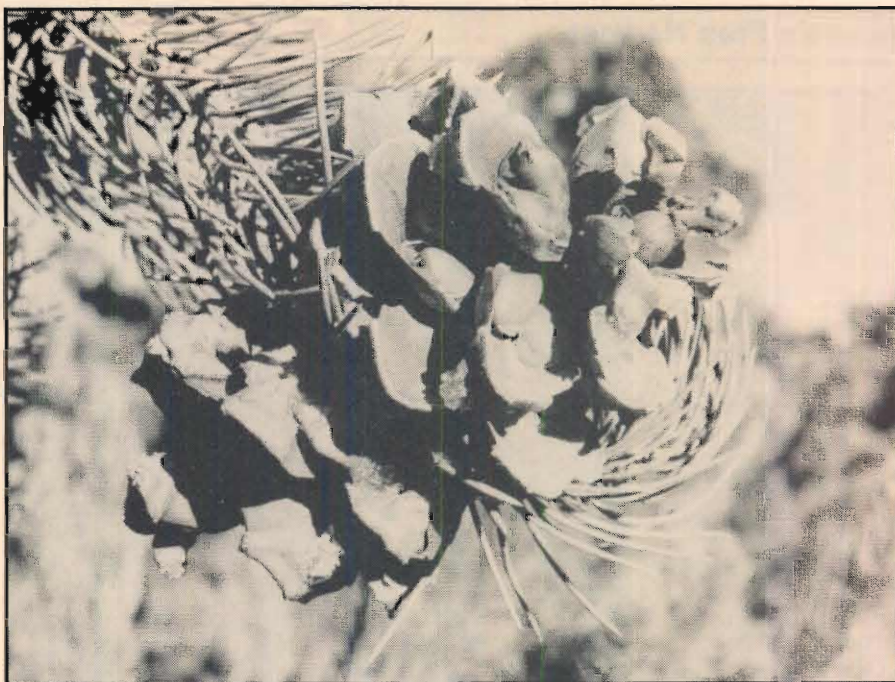
"You want to gather plants that give you the greatest return for the least expenditure of energy," states Peterson, author of *A Field Guide to Edible Wild Plants, Eastern/Central North America* (which is part of the Peterson Field Guide Series founded by his father, renowned wildlife expert Roger Tory Peterson). "Some of the standbys in that category are nuts, fruits, greens and root vegetables."

Warmth, shelter and a supply of drinking water should come first before you start looking around for wild plants. Peterson recommends that in a short-term survival situation (i.e., you're stranded in the mountains and expect to be rescued soon), first look into the possibility of obtaining wild game and fish, which provide high amounts of energy.

"In a longer-term survival situation, or if animals are not readily available, then plants become very important," Peterson explains. "The plants provide essential nutrients, as well as a variety in the diet that helps you keep a healthy mental outlook. Just having enough to eat to survive may not be enough."

Foraging Grounds—Often the best places to look for wild edible plants are disturbed habitats: along forest edges, fence rows, fallow fields, roadsides, stream banks that flood occasionally and rock slide areas. These areas have a high percentage of "cosmopolitan weeds," useful plants that have followed man around the world.

"Some examples of cosmopolitan weeds are dandelions, chicory, docks, lambs



The pinyon pine is a common provider of edibles in the high desert mountains of the Southwest, producing one of nature's most palatable nuts.

quarters and amaranths. These are excellent wild edibles and are found in great abundance. Collecting them actually helps their spread because you're disturbing the soil, and providing bare earth. The plants throw out lots of seeds, and are good at colonizing soil that has been disturbed."

Few people realize that many of the more abundant and nutritious edible plants probably grow within a short walking distance of their homes in the type of disturbed areas mentioned above. Another excellent place to find edible plants is along ponds or slow-moving streams.

A pond is an excellent foraging spot because of the abundance of edible aquatic plants such as water lillies, cattails and delicious, pungent-tasting watercress. Furthermore, it's also a source of water and fish, and because of this a likely place to find other forms of wildlife.

Most fish, while tasty, won't provide as much food value as you might expect because of their low fat content. A diet of fish alone may not supply enough energy for walking and hard work.

Always keep an open mind about what you're going to gather, because what you end up finding may not be what you were initially after.

What you gather in the wild may not look much like what you'll find on the shelves of the supermarket, but you're getting a bargain in terms of cost, taste and nutrition; many wild foods are actually higher in nutrients and tastier than their store-bought counterparts.

"Wild plants are an excellent source of vitamins and minerals," Peterson says. "Commercially grown vegetables are bred for size and appearance, and for this reason their flavor and nutritive value often suffer. Also, by the time they have been processed, shipped and displayed for

a few days in a supermarket, much of their vitamin and mineral content has been lost.

"Wild vegetables, on the other hand, are usually eaten shortly after they are gathered and, when properly prepared, retain most of their original flavor and food value."

Of chief importance when gathering plants for the dinner table is being certain that the plants are edible; it's better to stay hungry than eat a poisonous species.

"Have a good identification guide to make sure you have the right plant, and check proper preparation," Peterson says. "Some plants must be cooked before they are edible, and others are edible only at certain times of the year. Still other plants have some parts that are edible and other parts that are poisonous."

When trying a new plant for the first time, sample only a small quantity and wait a few hours to see if there are any ill effects. This serves not only to confirm whether or not it's the right plant, but to guard against the possibility of allergic reactions to plants that are edible for most other people.

"Whenever in doubt, err to the side of caution," Peterson recommends. "Really all it amounts to is using common sense."

"I've never had any problems, and I have tried a great number of things. But I never eat anything that I haven't positively identified, and I always check the proper preparation to make it edible."

He says you need to be careful where you gather, avoiding plants that could be drawing in polluted water or those that are within 75 feet of a busy roadside and possibly contaminated with lead. Peterson also strongly recommends exercising responsibility when gathering wild food: don't gather plants that might be rare or endangered.

Nature's Free Harvest



The green and ripe seed pods of mesquite can be used to create a variety of dishes, from flour to a sweet drink.

"The species I tend to stress and feel comfortable with gathering in quantity are those that occur in disturbed habitats such as fields, roadsides and gardens. That's where you're going to find most of the wild edible plants anyhow."

The type of wild edibles you'll find will be dictated by the region you're in and the time of year. The following is a general summary of some of Peterson's favorite recipes for the most common and tasty of the wild edibles from different regions of the U.S.

Fruits are of great importance in later summer and fall, when they are exceedingly abundant and a preferred survival food. Some of the most common fruits are blackberries, dewberries, blueberries, huckleberries, and raspberries. Some fruits, like hawthorns, elderberries and crabapples aren't usually palatable raw, but are tasty when prepared properly. Grapes are also a good survival food, and are found throughout most of Eastern and Central North America, and in the canyons of the Southwest. The young leaves of wild grapes can be boiled for 10 to 15 minutes and served with butter, or boiled lightly and used to wrap rice or meat for baking. Another important wild fruit is cherries, which are plentiful and can be found throughout the country.

There are numerous species of roses, all equally edible. Uses: jam, tea, candy, emergency food. An excellent jam can be made with rose hips and sour apples. Discard the stems and calyx lobes, and combine the hips with sliced apples (three parts hips to one part apples); add just enough water to cover, sweeten to taste and boil hard until ready to set (about 15

minutes). Commercial pectin must be added if the sour apples are omitted. Or syrup can be made by leaving out the pectin. Fresh or dried hips, fresh petals, and sweetbriar leaves can be steeped in hot water for 10 minutes to make tea. The fresh petals can be added to salads, made into jelly or candied. Because rose hips are often held on the bush through winter, they make an excellent survival food which is rich in vitamin C.

Nuts—Nuts are a major survival food. Most common are hickory nuts, pecans, and walnuts for Southeast and East; walnuts and pine nuts for Southwest and the West.

Oak acorns are found throughout our range until you get fairly far north. Acorns require some processing to be edible. Whole kernels should be stripped of their shells, boiled in repeated changes of water (to get rid of bitter tannin) until water no longer turns brown, and then roasted. Dried and crushed acorns can be placed in porous bags, boiled to remove tannin, and then redried, ground into meal and used as flour.

In the West large nuts from pinyon pines and digger pines could be particularly important in survival situations. Gather nuts on the ground, or put a sheet under the tree and shake it (if all the nuts haven't already fallen off). Rub nuts between hands or screens to remove outer hull. Eaten raw or roasted, this is one of the most delicious of the wild foods.

Day lilies are very common, both in gardens and wild areas where they have "escaped" from cultivation. A little known but excellent food source, as the entire

plant is edible. Add the early shoots to salads or prepare like asparagus. Prepare the young flowerbuds like green beans or, when older, like fritters. Use the fresh flowers to make fritters, or fresh, withered or dried flowers to season stews. Add crisp snow white tubers found early in the year to salads, or prepare like corn. Older, but still firm, tubers can also be prepared like corn.

Dandelion, chicory, docks, onions (anything that looks and smells like an onion is an onion) and amaranth are plentiful and found through much of the country. Greens and root vegetables such as these are usually steamed, eaten raw or added to stews. Some greens, like dandelion, are bitter so it's a good idea to mix them with blander greens. A favorite backwoods recipe is to saute dandelions with a small amount of water and bacon grease.

Black tree lichen (*Alectoria fremontii*) is common in the Rockies, and an excellent survival food because there are tons of it. Grey and rubbery looking, it is tender when cooked by wrapping it in tinfoil and baking.

Tree cambium is worthwhile only under extreme conditions. Use an ax to peel off bark of pines, firs, or spruces to get at edible inner bark called cambium. Scrape off the thin layer and cook in stew, or dry and process into flour. This food requires a big expenditure of energy for small gain, and may not be worth it if conditions are not extreme and other foods are available. Also, gathering cambium kills the tree, which is another reason to avoid it. What is recommended is making tea from the needles of pine, hemlock or fir. Not much food value, but good source of vitamins. In winter, the warmth provided by the hot tea may be an important psychological element of survival.

In the Southwest, mesquite is of major importance as a survival food. The blossoms of the mesquite are rolled up into balls and baked, and green and ripe seed pods are crushed and used to make various edible items from flour to drinks. The Indians of the Southwest were known to have mixed the hardened tree sap with mud as a curative for lice, making the mesquite a survival medicine as well.

The plants listed above represent only a small portion of the important wild edibles in the U.S. But they do give you an indication of the food resources that are readily available if you're willing to take time to learn how to identify and prepare the wild edibles that our abundant natural heritage offers.

Author's note: Some information and recipe ideas reprinted with permission from A Field Guide to Edible Wild Plants, Eastern/Central North America, by Lee Allen Peterson, published by Houghton Mifflin Company. ●

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